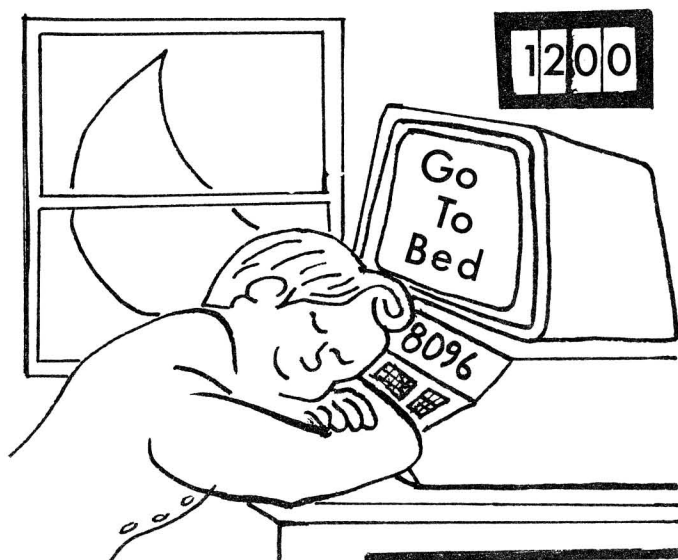


MIDNITE SOFTWARE GAZETTE



Issue #7
SPRING-82

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The Midnite Software Gazette is published quarterly by the Central Illinois Pet Users Group, & paid for by donations & ads from readers. If your envelope says "0 left" in the front lower-left corner, your "subscription" has run out. To get future issues, send up to 4 triple-stamped self-addressed envelopes, labeled with desired issue numbers, or U.S. funds for same, to CIPUG, 635 Maple, Mt. Zion IL 62549 (217/864-5320). Our only program exchange is through ATUG, the ASM/TED user group, c/o Brent Anderson, 200 S. Century, Rantoul IL 61856 (217/893-4577). The editors, Jim & Ellen Strasma, may be reached at P.O. Box 647, Pawnee IL 62558 (217/625-7494). CBM, PET & VIC are trademarks of Commodore Business Machines, Inc.

CIPUG contributors for this issue are Brent Anderson (BA), Mark Niggemann (MN), John O'Hare (JOH), Jim Oldfield (JO), Michael Phillips (MP), Jim (JS) & Ellen (ES) Strasma, & Monty Throneberg (MT). We also thank all those whose names appear beside their comments & reviews for their help in making this issue.

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MIDNITE MEANDERINGS

ATTENTION EVERYONE! Midnite #8 will officially end our second year of publication. In honor of that event, it will be a compendium of all reviews & resources from the dawn of our time until now, plus a special section reviewing some Public Domain programs, such as TPUG's games. All reviews are being reorganized by category. This is an issue you will want to keep!

MIDNITE #8 WILL BE A PAPERBOUND BOOK, TYPESET & PUBLISHED IN COOPERATION WITH TPUG. You have to order it to get it. (Sorry about that, but it will be

over 100 pages long, & never fit in the envelopes on hand.) It will cost \$5 in advance, postpaid in North America. After publication, it will cost more. Overseas, it will cost \$10, since those postage costs are 4 times U.S. rates.

Dealers, we suggest stocking these for sale. User Groups, we'd like to have you order in bulk to one address. Companies may also sponsor ads in the book. Assuming an initial print run of 1000 copies, a full-page ad will cost \$100. Since TPUG alone has over 700 members, we're hoping to print more.

This compendium will include ALL back issues. Envelopes labelled #8 will NOT be used to mail the book; they will instead be renumbered to extend your subscription. New reviews deadline will be June 15th. Since it has to travel to & from Toronto, Ontario, to be printed, you receive it sometime in July.

We're really quite excited about having ALL reviews, hints, & information organized in one volume, along with information about ALL companies supporting Commodore computers. I still use my copy of The Best of the PET Gazette regularly, & I hope we'll all feel the same about this Midnite Compendium someday.

HERE'S HOW TO GET YOUR MIDNITE COMPENDIUM (ISSUE 8):

Send \$5 (\$10 overseas) in U.S. funds to CIPUG, c/o Jim Oldfield, 635 Maple, Mt. Zion IL 62549 USA. Please mark your check or note with: "MIDNITE COMPENDIUM". If possible, have your request in by June 30, 1982, to be sure of getting a copy.

2) As some of you know, we had hoped to have a CIPUG-ATUG meeting at the Chicago Consumer Electronics Show in June. That is out now (our annual clergy conference is the same week). Instead, we are planning a June 18 meeting at 7PM for interested Commodore users at Computer Country in Springfield, IL. We will follow Toronto's TPUG format, with two presentations, separated by a free Coke(tm) break, & end with distribution of a Public Domain program disk to those who want it. Everyone is invited, no charge, but don't miss it; we don't do this often.-JS

3) A word about NAMES: VIC & CBM owners are hereby officially advised that they ARE included in PET user groups & publications. Nearly all such groups use "PET" to mean all Commodore-brand computers, rather than just 40 column graphic keyboard models.-JS

4) JIM BUTTERFIELD, LEN LINDSAY, ARTHUR COCHRANE, JIM STRASMA, ETC... Want to be famous, too?!! Or just want to see your name in PRINT?!! We can't guarantee you fame, but we can guarantee you'll be heard. Don't be afraid to send any reviews, views, opinions to Midnite; we are you. If you've bought a Commodore-related product, all it takes is an envelope, stamp & some time to do it. So do it!-JO

REVIEWS NEEDED: In scanning recent magazines, we noticed many companies whose products have never been reviewed. Come on, readers; surely some of you have seen this stuff. Is it any good? To jog your memory, here is a list of those companies & products we'd like to hear about. Until we do, LET THE BUYER BEWARE.-JS

First are those companies we know really exist, but whose current products haven't been seen or reviewed:

CMS Software's "General Accounting System II"

Cyberia's "Mari" medical package

Dataview's "Wordcraft 8096"

DES's "Acc/Sys GA 1600", "Orgaprocess", "4 pass Disk-Recovery",

"Super-Basic" (sic), "Portexpander", "TYPE-SHARE" & so on.
Etcetera's "Backpack"
Voicetek's "Cognivox"

Here is a longer list of those we can't vouch for at all without your help:

| | |
|------------------------------|--------------------------------|
| Actek | Micro Printer Marketing |
| Amplify, Inc. | MicroSpec Ltd. |
| Cmart | MINISOFT |
| CourseWare Magazine | Orange Cherry Media |
| DataMax | Philadelphia Computer Discount |
| Educational Activities, Inc. | PSK Evaluation Service |
| Huntingdon Computing | Questar International |
| MICRO Business World | Software Etc. |

And for the VIC market:

| | |
|-------------------------|--------------------------------|
| Comm-Data Systems, Inc. | Recreational Software Services |
| Hypertech | Taylor-made Software |
| MDS | TELE-TREX Software Systems |
| | TSASA |

5) If you have run out of envelopes, you may want to do one of two things to renew your subscription. Either send us large 9x12 inch envelopes, or else \$5 plus four address labels for the year (\$15 overseas), instead of postage & envelopes. It's getting very difficult to cram the Midnite into even a standard #10 business envelope. We'd also appreciate your using three stamps instead of two. Overseas readers who don't mind waiting for surface mail should say so, since airmail now costs almost \$2 an issue. Those international postal coupons appear to be for surface mail.

6) As it gets more costly for you to copy Midnight, more of you may want to order it in bulk. We can still ship 50 copies of this issue to user groups & stores anywhere in North America for \$15. An added bonus is better readability. Those stores which now display Midnite find it helps sell PETS, & also aids in keeping the customer happy after the sale.

7) Cursor UPDATE. Cursor Magazine as we know it is folding after the next issue, #30. The current issue, #29 includes a survey, as to what subscribers want to happen next. Please send your opinions as soon as possible.

Is there a place in the U.S. for a full, independent magazine limiting its coverage to Commodore computers? Such magazines already exist for Pandy & Apple computers. Some think the answer is "no". Compute! seems to have been trying to escape its PET Gazette origins for two years, & may have succeeded in the March '82 issue. I fear there will soon be very few computers not 'covered' by them, & even fewer articles directly useful to PET owners. Worse yet, those articles, & the ads for Commodore-compatible products, will now be scattered all over the magazine, instead of being nicely grouped together for the convenience of busy readers. I've already sent them a letter asking for a return of the PET Gazette, & suggest you do likewise. We'll probably be ignored, but at least we won't have lost something special to the PET World without a peep.--JS

ADVERTISING NOTES

TRANSONIC LABORATORIES' president, Thomas Henry, writes, "I mentioned that we are a small company & I'm getting this thing started on a shoestring. Of course I want to advertise, & I know that advertising is expensive, but I nearly fainted when the rate card came in from Compute! I'm hoping that I can find many grass roots' & 'word of mouth' ways of advertising. I find the prices of most software items have skyrocketed, & I suppose the high prices reflect the advertising expenses. I'm trying to keep our prices as low as possible. This

dictates finding some alternate ways of advertising."

Transonics isn't the only software house to contact us in shock after the recent advertising rate hike at Compute!. Other magazines have raised their costs, too, but it is especially noticable at Compute!, since they get the most Commodore-related ads. Having all the ads together is very convenient for users -- no need to get a hernia holding the latest BYTE. However, with a quarter page ad costing \$700 a month, advertising there has lost some of its appeal, especially since Compute! no longer has an identifiable PET section.

We originally accepted just enough ads to cover printing costs, but since that means shutting out new companies, we've decided to seek ads. If we get enough, we may begin printing on full-sized pages, for easier reading. Those who have advertised with us so far have been more interested in insuring our survival than in seeing circulation figures. But for the record, we are printing 1000 copies of this issue, & expect to run out before the next issue is ready. The TORPET, circulation 2000, reprints our text, but not our ads.

Because our ads are cheap, we insist they be simple for us to handle. There is only one size: 8-1/2 by 11 inch original. We just take a picture of what you send us. The rate has been \$25, payable in advance; since this barely covers the cost of printing 1 ream of paper, expect an increase. As mentioned above, ads for the #8 Compendium will cost \$100.

Speaking of ads, having William Shatner do Commodore ads is great. Most wage earners admire him as a very honest & intelligent fellow. I can't imagine Star Trek's "Captain Kirk" hawking junk. Through these ads, Commodore is finally achieving brand recognition in the U.S.

ATUG NOTES

by Brent Anderson (& Bob Baker)

The ATUG library has had many requests since Bob Baker made it famous in the April '82 Microcomputing!

ATUG GENERAL INFORMATION:

The Asm/Ted Users Group, started by JS, promotes good assembly-language programming. Our exchange DISKETTES (4040 format, readable by 2040) specialize in source files for Carl Moser's MAE & ASM/TED assemblers for PET.

PLEASE remember to DONATE GOOD MACHINE LANGUAGE ROUTINES, free of copyright, & PREFERABLY in assembler source form. JS's "Unassembler" program converts object program into MAE source (See March '81 MICRO; also available on our exchange diskettes.) We also accept good object programs & utilities. I'd especially like to see some routines to aid use of the 8096's extra memory.

To get ASM/TED COMPATIBLE WITH MAE disk files, request diskette "Campbell#2." SPECIFY UPGRADE or 4.0 BASIC & include proof of ASM/TED purchase, such as the serial # on the manual. (Includes guide to new features & editing MAE-files to work with ASM/TED for disk.)

13 OFFICIAL ATUG DISKS as of 4/82:

Recent & Pending Library Changes

New HELP diskette by JS samples useful instructive programs. See elsewhere in this issue for a more specific description.

New UV (VENTURES) has the Original Adventure game by MIT/Butterfield plus 3 adventures by group member John O'Hare (CAVERN OF RICHES, GREAT PYRAMID, & HAUNTED MANSION).

UC, COPYRIGHT-restricted files (*must certify buying Compute & Micro regularly*). Removed ADVENTURE & older BASIC AID files. NEW FROM Micro: GROWING

KNOWLEDGE TREES (BASIC/ML) queries user about topic & analyzes results; FACES is graphic tool to display emotion-laden faces.

UE (ATUG ASM #2) now includes Punter's INTELCOM3 with IEEE modem software. Also has PET PILOT language (by O'Hare) soon to be published in Micro.

UH (BAID SRC+) is mostly source/object/guide for Seiler/Butterfield/JS/Cochrane/? aid to edit/debug BASIC. Assembled for 4.0 or Upgrade BASIC; 40 or 80 columns; graphic or business keyboards; ASCII or CBM printers. Uses TOOLKIT-like commands PLUS: scroll program listings both ways, break to TIM monitor, dump screen to printer, change specified items in whole program or line range, list directly from disk, make Hex/Decimal conversion, kill scroll or BAID, flip upper/lower case mode, pack program, display sequential file, display program size & load address, SPOOL directly from disk to printer, un-new, define stop key as escape. Many commands' output can be paused or halted. Abridged variation POWER-AID (2/23/82 version) supplements Templeton's POWER (Personal Software). We are expecting a NEW version of POWER-AID soon.

UX is source/object/guide for MICROMON "D" (3/1/82 version) & MICROMON "D" Addition's (2/23/82) extensions to machine language monitor in upgrade & 4.0 BASIC PETS. It can now add default load/save via IEEE bus, set printout form-feed (heading option), view sequential file, SPECIFY SAVE ADDRESS, soft change disk device#. 40 or 80 column versions. We expect a new version soon, including a HUNT COMMAND with "don't care" feature. (e.g., ".h 2000 3000 4c ** 90" would hunt \$2000-\$3000 for ALL jumps to \$9000-\$90ff area).

Previously Defined Diskettes:

UA has MAE source files, UB has BASIC & object files, UD has program documentation in WORDPRO3/4 format. UF is a very complete FORTH by Seiler. UG is 6502 source & instructions for FORTH.

UK (koch utilities) has MAE-label files for important locations in ROMs of ALL BASICs, "Autoload" of various utilities into reserved RAM area, digital speech record/playback, updated version of CBM's screen-input manager. UM has Bennett's sophisticated mail list program, enhanced/instructed by Strasma. 2.0 version works on upgrade BASIC. 4040 version works with BASIC 4 using relative files.ln2

TO OBTAIN ATUG DISKETTES (indicate clearly which), send: quality diskette(s), a PROTECTIVE mailer (stiff photo mailers are cheap & good), pre-addressed return label, return U.S. postage, & \$5 per diskette for our labor. If we have to provide diskette, mailer, postage or whatever, send \$10 instead.

Good source files & programs keep coming (with your help) & will be added to new ATUG diskettes. TO GET THE LATEST ANNOTATED DIRECTORY OF ATUG DISKETTES, send SASE & request ATUG INFO.

If you have CBM's 4040 or 2040 Disk Drive, make ALL REQUESTS & PAYMENTS to:

Brent Anderson (ATUG)
200 S. Century
Rantoul, IL 61866

If you have CBM's 8050 Disk Drive, make all ATUG REQUESTS & PAYMENTS to:

Baker Enterprises
15 Windsor Drive
Atco, NJ 08004.

8050 ATUG Diskette Information from ROBERT BAKER:

So far, 8050 ATUG disks are as follows:

U1= ATUG SRC. 8050, UA, UE, UX 4040 disks.

U2= ATUG LANG. 8050, UF, UG, UB 4040 disks.

U3= ATUG UTIL. 8050, UH, UK, UM 4040 disks.

U4= ATUG (C) 8050, UC 4040 disk.

Also, UD is on 8050 format & will (hopefully) be incorporated into U1-U4 as appropriate, if room permits.

Same terms apply as 4040 disks through Brent, except that I can accept VISA/MC! I also have the Osborne/JS 'HELP' disk in 8050 format.-Bob

COMAL NOTES

by Len Lindsay

The following are excerpts from Len's COMAL Users Group newsletter, the COMAL Catalyst, issue #2, April, 1982, & accompanying letter:

COMAL Users Group Announcements:

1) COMAL program exchange disks will no longer be available in 8050 format, since we don't have an 8050 disk drive. Only 4040 format will be provided.

2) User Group Disk 2 will be released in May 1982.

3) The COMAL STARTER KIT is discontinued due to arrangement with RESTON Publishing to professionally publish the COMAL HANDBOOK [in the fall]. The newsletter will continue.

"Talks are under way to have the COMAL handbook & diskette included with each PET/CBM. Commodore England initiated this. A COMAL Users Group has been formed in England - it even has meetings. Contact is John Collins [4 Grimthorpe House, Percival Street, London, EC1V 0B5 England].

"A few months ago, Commodore USA said it was not going to support COMAL. Now, we hear that they are planning to give away 10,000 COMAL disks...

"...What everyone seems to want is an easy paced tutorial on programming in COMAL. Well, relief is on the way. Borge Christensen's book, Problem Solving Using COMAL should be available May 1982 from Ellis Horwood. It is presented in a textbook manner, with self tests & workbook. Another book from Ellis Horwood, Structured Programming with COMAL-80 should also be released this Spring. A second COMAL newsletter is rumored to be about to appear, under the guidance of, once again, Ellis Horwood.

"[Issue #2] of the CATALYST is mainly a reference for you. You will find a list of articles already published, user groups, newsletters, books, & a list of addresses & rumors.... COMAL [in RAM] has been running on the CBM 8096 since July 1981. A ROM version that works in any PET/CBM also has been running since July 1981.... The word is that Commodore has finally reached agreement with the authors of CBM COMAL (Mogens Kjaer, Jens Erik Jenson, & Helge Lassen). Apparently, the rights are split - with Commodore getting rights to the disk-based CBM 8096 version [see under LANGUAGE REVIEWS], & INSTRUTEK getting rights to the ROM version. Both CBM 8096 & ROM versions [officially called 1.00] are said to be nearly identical. The earlier public domain version Commodore released last May is officially called version 0.11 (alias COMAL BLUE). It is not yet known whether Commodore will release the CBM 8096 version to the public domain. We would guess they'll try to sell it (but hope it is given away).

"We were really excited when we heard that COMAL was already running on VIC, complete with SOUND & COLOR - not only color control commands, but actual use of color in the presentation - KEYWORDS were color coded, adding a new dimension to a program listing. Fantastic! But as rumors go, we heard all development of COMAL on VIC was stopped since COMMODORE was not interested in it. If any company IS interested, it would be fairly easy to complete the implementation.

"A CP/M version of COMAL is currently available from METANIC Aps. We just received their users manual, which is very well done. However, we have had problems with the interpreter.... Work is under way to run COMAL-80 with the 6809

processor under the FLEX operation system. Apparently, work at the Technical University of Copenhagen was stopped on a COMAL version for INTEL 8080. COMAL-80 is running on the Data General NOVA. RC computers apparently haven't updated their version of COMAL yet. Thus, Borge Christensen said that only one version meets the latest COMAL definition - the CBM 1.00 version.

"MTU is considering implementing COMAL on their system. Tandy in Europe is apparently interested in COMAL. Research Machines in England has COMAL running on their RM-80 computer. Ireland has supposedly endorsed COMAL for its education system. Sweden & England are heading that way, too."

COMMODORE NOTES

Commodore may be working on a 4 color printer.-Lyle Phillips

NEW DISK DRIVES FINALLY HERE:

The big news at Commodore this month is that they are finally shipping the 8250 double-sided floppy DISK DRIVE & 5 & 7.5 Megabyte WINCHESTER HARD DISKS, (the D9060 & D9090 respectively). The 8250 will sell for \$2195, the D9060 for \$2995, & the D9090 for \$3495. The VIC DISK is in beta test sites, & in government testing, but no release date has been set yet.

The new hard disks, dubbed DOS 3.0, will allow a single file to fill several Megabytes, & the 8250, now called DOS 2.7, will allow a file to span both sides of a diskette (about 1 Megabyte). Backing up a file that large can be time-consuming & difficult; one apparent solution is suggested by a recent Commodore announcement that they plan to build a streaming tape drive (quite unlike your VIC cassette drive). It should be able to backup a 7.5 Meg disk in about 10 minutes, if it can be suitably connected. As usual, the new powers bring some incompatibility. DOS 2.7 & DOS 3.0 relative files are different than other DOS 2 relative files. However, the 8250 can be set to use ordinary DOS 2.5 files, & comes with a COPY utility to upgrade files to the new DOS.-JS

SUPERPET UPGRADE COMING:

The SuperPET is in production again; owners can expect a free upgrade about July containing an interpreted COBOL. Eventually, there may also be new ROMs available to make slight changes in the communications code & to include COBOL in the menu. Since most, if not all SuperPETs, have EPROMS instead of ROMs, that upgrade could be a quick, cheap chore for owners with EPROM burners.-JS

EXPANDED VIC LINE COMING...EVENTUALLY:

The VIC-20 is selling well now; our local dealer can't get nearly enough of them, even though Commodore is making 20,000 a month. If you've been holding off on VIC, waiting for the \$595 Commodore 64, plan on waiting until at least July. Some prototypes & a preliminary manual have been seen outside the company, but it is NOT in production yet. The 64 will run VIC peripherals, with an IEEE adapter for PET peripherals also planned.

As for the EMULATOR, the mystery machine that might be able to load APPLE, CP/M, & TRS-80 disk programs, no further news exists yet, except that one of the machines it WILL be able to emulate is the existing Commodore PET...

Lyle Phillips reports that 40 & 80 column VICs are said to exist in Germany. However, Commodore U.S. reports no plans to upgrade the VIC to 40 columns here, nor will its cartridges run on the Commodore 64; even the connectors will be different. However, the VIC-20 WILL continue to be made. The \$150 ULTIMAX, based on the 64, but with a tiny memory & no standard BASIC, may end up good for games & cheaper than VIC, but will take some added options to be what I would call a real computer.-JS

COMMODORE 64 & PET-2 WILL SHARE FEATURES:

The PET 2 may have a detachable keyboard. Formerly known as the Porche PET, it will also share some features with the 64. Both will have color displays with numerous graphics modes, including one featuring 320x200 dots in 4 colors, & another with 16 colors. They will have synthesized music capability, & turtle graphics (renamed "sprites"). Eight sprites can be controlled at once, or via trickery, 256 at once. If a sprite collides with anything, an interrupt is generated to handle it. The 64 (obviously) has 64K of RAM memory, while the PET 2 is said to offer either 128K or 256K, using a new 6509 processor. It may be as fast as 3 megahertz (triple the current PET's speed). The new chip uses a built-in 8-bit port at location 0 for memory management. Four bits are set to select from which 64K bank the next instruction will come, & the other 4 bits select which bank contains the data for that instruction. That means the new chip will quickly & easily address 1 Megabyte of main memory (the entire contents of an 8050 disk unit!) Both the 64 & PET 2 will have 40 column by 25 line screens. There should also be a CBM 2, with an 80 column black/green screen.-JS

COMPETITOR'S NOTES

Apple(tm) has 2 new 68000-based computers coming. One in the 5-figure price range, code-named LISA, is intended to scare the Hewlett Packard(tm) System 45 or at least the Xerox(tm) "Star", at NCC in June. The other may give the Osborne I(tm) a run for its money late in 1982. Supposedly smaller than the Osborne, it will cost \$500 without disk, or \$1,500 with two disks. Apple II will be replaced with the DIANA project, intended to be compatible with current units (hopefully more compatible than the Apple III; it can't handle Apple II programs that use peeks or pokes!).-JS & Hal Hardenbergh

"On page 4 of Midnite #6, Hal Hardenbergh was quoted as saying that Apple III is too light to use as a boat anchor. I beg to differ! I have a 12' boat I use for fishing in San Diego Bay, & Apple III is the correct weight for a boat this size. The disk drive, with its whirring & clicking, actually seems to attract fish. (Although a CBM 8050 works even better - 2 drives, you know.) There are other problems, however. The power cord is much too short, requiring an extension cord to use the Apple in deep water (an additional expense). The greatest reason not to use the Apple III as an anchor is that because of its odd shape, it continually gets hung up in rocks! I personally have lost 4 Apple III's because of this. Unless Apple changes its design, I will be forced to use another micro, possibly a CBM, although bass like a color display...

Currently, the Apple is being used as a block to keep my car from rolling backwards on hills. However, I still think a brick works just as well.

I will continue my research, & keep you up to date on my search to find a use for the Apple III."-David M. Conley

COPYRIGHT NOTES

SARGON COPYRIGHT. Those wanting SARGON II will be pleased to know that HAYDEN is finally releasing the PET version for \$30, & also plans a VIC cartridge. The legitimate version fixes a bug in the earlier (illegitimate) version, & runs much faster as a result.-info from Commodore.

VISICALC 8096. Several users have told us that VisiCorp, marketers of VISICALC, totally stonewall inquiries about PET VISICALC 8096. They apparently have no intention of enhancing PET VISICALC. However, someone had the audacity to do the job FOR them, developing an 8096 version with 69K RAM free for spreadsheets instead of the usual 10K. Supposedly, England has an even better version coming, different enough from VISICALC that VisiCorp's opinion won't matter. Therefore,

don't bother contacting VisiCorp; try your local dealer or user group, instead. Until VisiCorp sets a price for the 8096 version, anyone who buys the regular VISICALC has already paid the only royalty they can, & may as well accept enhanced versions.-JS

DEALER NOTES

ECLECTIC SYSTEMS CORP. They said over the phone that they will match or even beat most other mail order houses. I ordered an RS232 interface from them. They told me what day I should receive it: they were right on the nose. Since they sell more products than they advertise, use their toll-free number to find out. I am for sure going to buy from them again!-MN

FSS & HAYDEN. I've bought a lot of programs in UK & USA, & there were only 2 companies with no reply: HAYDEN & FSS. Six months ago I wrote to FSS software to order 2 of their programs, NUCLEAR WAR & DEATHRACE 2001, enclosing \$32 (airmail price). As they didn't answer, I sent another letter - no reply! I finally called them 2 months ago (very expensive!!!). A friendly man on the phone told me something must have gone wrong; he searched in his office & found my letter. He apologized to me & promised to ship my software immediately, but I STILL don't have their programs. If you had good dealings with them, could someone remind FSS of my order?-Fritz Schafer (West Germany)

SUPERSOFT. In the UK there is a superb software company for PETs only, named SUPERSOFT. Most of my good programs I bought from them (SUPER-GLOOPER=PACMAN, ASTEROIDS, COSMIADS=GALAXIANS, COSMIC JAILBREAK, MEREOBITES, ...). You can buy a SUPERSOFT program without worrying whether it will be good. Every one of their programs is superb & well worth the money.-Fritz Schafer

[Among SUPERSOFT's current offerings is SUPERSORT, with advertised features identical to my own program originally of that name. Their asking price is double my own. You might want to think twice before buying theirs. I've written them, as you might expect, but they haven't cared to reply. Anyone want to be a British dealer for the legitimate version at a fair price? Also note that some of the games mentioned above are from Commodore's Public Domain arcade series.-JS]

Need parts for a 2031/2040/4040 disk drive that Commodore can't supply? Try contacting the manufacturer directly: SHUGART ASSOCIATES, 475 Oakmead Pkwy., Sunnyvale CA 94086 (408/733-0100). Ask for Ivy Lewis.-Dick Immers

Updates on:

AB COMPUTERS.

REVIEW #1) Probably one of the most recognized mail order dealers for Commodore equipment & related hardware/software in the country. Ever since they have moved, though, it has taken a long time to get orders filled. It took them four months to send me the SUPERGRAPHICS software, which didn't work right. Luckily, I was able to fix it. I have heard many other people with similar complaints. A friend has a small suggestion to make: start using computers to handle orders! They currently are hand writing orders. I like most of the software/hardware that AB sells, but I cannot tolerate ultra-long waiting times.-MN

REVIEW #2) No store here [in San Antonio, Texas] handles Commodore except as a side line for schools...Most of us buy our equipment from A.B., & in general, A.B. has been a good, reliable source, but lately they do seem to be taking an awful long time to make shipment after the order is placed.-Larry Williams

COMPUTER MAIL ORDER.

REVIEW #1: Following the favorable review in Midnite #4, I confidently sent them an air mail order on 12/15/81. What a mess! Although my order said I have a 4032, on 1/19/82 I received a postcard asking what version of BASIC I have...(all 4032's have BASIC 4). I immediately sent them a telegram saying I had BASIC 4 & reminding them to send my order by air mail. (Because sea mail to New Zealand takes 4-6 months, I had sent an extra \$11 for air mail). On 1/30/82, I received another postcard [same question].... I immediately sent a postcard [with the same answer]. Several weeks passed with no word. I wrote to them for the fourth...fifth...sixth time. Again no word. At last, on 3/27/82 I received a post card (air mail!) saying that my order had been sent sea mail on 11 February. There was no explanation why it had not been sent air mail & no offer to refund my \$11. Tsk, tsk. Out of 8-9 mail-order firms with whom I have dealt, COMPUTER MAIL ORDER is unquestionably the worst. I'll be lucky to receive my order before mid-July (7 months after my order).... My big worry is what to do if the POWER chip I ordered doesn't work. I don't dare sent it back to CMO -- I suppose I'll have to try sending it direct to Professional Software. Oh, dear.--Steven Darnold of New Zealand

REVIEW #2: They have the lowest prices advertised on most Commodore equipment, with a toll-free number to place orders or make inquiries. Most people that I know have dealt with them have given them high praise. I got a VIC 8k expander from them; however, it took them quite a while before they got it to me. They made a mistake the first time they sent it; instead of a VIC 8k expander, I got an ATARI (tm) 16k module. I called them to explain the problem, & was placed on back order for awhile when I sent the ATARI (tm) module back. I finally received it one month later. I would order from them again, but not order many items in the VIC product line--MN

SKYLES ELECTRIC WORKS. "Let me add my own plug for Skyles. I've had memory problems - real strange ones - on two occasions. Both times S.E.W. fixed the problems quickly & at no cost! They ship their products fast, too."--Bruce Jaeger

PROGRAMMING NOTES

* To get a selective directory off both disk drives at once, either from the Wedge or from a PRINT# command, use a comma instead of a colon after the dollar sign: (Arthur Cochrane)

```
>$0:whatever
  plus
>$1:whatever
  becomes
>$,whatever
```

SuperPET & 8096

Both SuperPET & 8096 have 64K extra RAM in overlaid blocks on top of the normal 32K & xK ROM. But BEWARE, programs such as WORDPRO 5 & WORDCRAFT 8096 written to make use of memory expansion, work on 8096 but NOT on SuperPET.

It's a long story, but a computer like PET (with 8 bit bytes & using 2 byte addressing) can only address up to 64K. Hence, special arrangements must made to allow this expansion [by making] more than one area of memory share addresses & switch these blocks into & out of use. The trouble is use of extra memory is implemented in different ways in the two machines.--Paul Dixon, from Hardcopy

CAUTION !! Does your 8032 screen image suddenly shrink while becoming brighter? This is not a good thing. It may mean that the phosphorus is being burnt off the back of your screen. Turn off the power as fast as you can. Reload, but don't run your program & examine the listing. Look for & remove: POKE 59468,62.--Paul Dixon, from Hardcopy

MODEM NOTES

PBBS#1 in Michigan is probably defunct. Fred Hambrecht, its founder, may have left the area. PBBS#2 in Milwaukee was also down for a while in March. I don't know if it's back up yet or not.-JS

Two new PBBS's using Steve Punter's programs are said to be up or coming. One is sponsored by Keith Peterson of Commodore Chicago. It has been hooked up to his home phone, but he has other plans for it soon. The other is awaiting Punter's software, but should be up by the time you read this. It is sponsored by Tim & Phyl Tremmel of SEWPUG (Southeastern Wisconsin PUG) in Racine, Wisconsin. The number will be 414/554-9520. Tim is also on THE SOURCE, TCF059.-JS

For all you TEXAS modem owners, read the CHUG announcement under USER GROUP NOTES about a new Modem Group in the Houston area.-ES

READERS' NOTES

"My wife has a quotation that she keeps repeating. 'I am cuter than a computer.'" -P. W. Kelley

"I was saddened to hear about Cursor terminating their operation, since I have subscribed since their inception. Even though I wasn't interested in a lot of their programs, it's like the end of an era. Given Commodore's production & marketing policies, it's no wonder the software people have deserted us in droves. It's really up to the User's Groups to maintain some cohesiveness & support for the product. Unfortunately, since none of the main frames prior to 8.0 BASIC are still in production, our ranks will not grow to any substantial degree unless there is some standardization, equipment upgraded, compilers developed to handle other languages & most important of all, well organized User's Groups to be the impetus for continued support of the hobbyist & his equipment. There seems to be very little hobby type software for any of the new Commodore equipment. It appears Commodore isn't that interested in the hobbyist market any longer, but are addressing future development for business applications. The EMULATOR idea is good, but I would hope they remember to emulate their own equipment, not just CP/M, Apple, et al. [They did.-ED.]"-Hank Roth (Amateur Radio PET-Users)

USER GROUP NOTES

Will any group that has NOT been listed in any Midnite issue please give us a contact person & current meeting location/time by July for the compendium. We would also appreciate any updates to groups already mentioned.-ES

AMATEUR RADIO PET-USER'S GROUP. Hank Roth (K4EVY), of P.O. Box 30694, Raleigh NC 27622, represents this ham radio group. We think it is different from Larry Williams's group, listed below. Contact Hank for more information.-ES

HAM NET. Larry Williams belongs to a PET HAM NET, in operation since June 1978, when Orin Batesole (W6HJE) suggested it in the former People's Computers magazine. HAM NET meets each Sunday at 12 Noon Central Time (after Church, we hope), at 14.240 MHz, & would be happy to have other interested hams join them.-JS

CAPP (Central Arizona Area PET People). Dick Juvet writes that CAPP "is alive &

doing well." Coordinators are Roy Schahrer, at 842 W. Calle del Norte, Chandler AZ 85224 (PH:899-3622), & Dan Underwood (PH:249-1816). Meetings are held the fourth Saturday of each month at 2pm at Arizona Tech, 4837 E. McDowell Rd. (Phoenix AZ?). In January, Dick "demonstrated some of the experiments developed for my course on "Computer Interfacing to Chemical Instruction..."-ES

COMMODORE (HOUSTON) USERS GROUP, 8738 Wildforest, Houston TX 77088 (713/999-3650). John Walker is Director & Editor [of their newsletter, Hardcopy]. "CHUG meetings are run convention style. We break into little groups of great interest for most of the night. However, there is a core period of perhaps 20 minutes where we meet as a single group to discuss common interests. Come, join the fun! There is no admittance fee. Rent for the meeting is being taken care of by Texas Technical Services, one of your friendly local Commodore dealers.

CHUG is forming a MODEM USERS GROUP (MUG) within its framework. One of our goals is to establish a 24 hour per day electronic bulletin board & network. Contact CHUG at the above address."-John Walker

[SPECIAL NOTE: MIDNITE hopes that Commodore users and/or future users around the Houston area support CHUG in its' efforts. Thanks to John Walker of Hardcopy for allowing us to use some of their material from their first issue (See reviews & notes elsewhere by Paul Dixon, Peter J. Farrow & John Walker)-JO]

JAPANESE COMPUTER CLUBS. If your club wants to exchange ideas, software, etc., with Japanese computer clubs, send your club name, size, when formed & type of activity to ORII, Box 1358, Mountain View CA 94042. [Remember that many of the best PET arcade games have come from Japan, & that the VIC appeared there long before here.-ed]-copied from Microcomputing

OREGON PUG meets the second Saturday of each month. Contact Ken Flynn.-JS

SAN ANTONIO, TEXAS, PUG. Larry Williams reports there is a PET user group in San Antonio, Texas, meeting on the second Friday of each month. Anyone interested may call Larry at 512/226-3542.-JS

SouthEastern Wisconsin PET Users Group (SEWPUG) meets the third Saturday each month. "We started as a PET users group, but there are VIC-20 users, & a [gasp!] TRS-80 Color computer owner. We have pretty loose meetings. Between 10-20 members show up. The mailing address is SEWPUG, 3614 Sovereign Dr, Racine WI 53406."-Tim & Phyllis Tremmel

WANT TO FORM A VIC USER'S GROUP?

I would like to form a VIC User's Group for the purpose of exchanging ideas. Have you come up with an interesting application? Would you like to share them with others? If you would, write to: Mark Niggemann, 912 St. Andrew's Way, Rockford IL 61107. I want to hear from you!! -MN

A new user, Stephen Poppish, of 4608 Jackson Rd. in FREDERICKSBURG, VA 22401 would like to meet nearby PET owners. Go to it, brothers & sisters; make the man welcome.-JO

Two PET owners requested Midnite's, but forgot to include their addresses. If anyone knows GEORGE POTTER, please give him a copy of all Midnite's starting with Issue #5. The other PETter, MO JUDSON (a flyer?!), requested issue #3 last September & may need #5-7, as well.-JS

Updates to #6:

SCOPE PET user group now has about 60 members. New officers are: President, Bill

Knight; Vice President, Tom Brooks; Treasurer, Shing Mao; Secretary & newsletter editor, Sam Cook. Cook reports, "Our membership is increasing since we have made available the TPUG disks & the Midnite Software Gazette."-Sam Cook

Rockford Area PET User's Group: New Contact is Dave Pippitt, 1608 Benton St., Rockford IL 61107. General interest group, with interests in education, business, & game programming. A few members have VIC's, but most have PET/CBM's.-MN

VIC NOTES
by John O'Hare

1) Commodore's new Programmers reference guide has several errors in it which may cause serious problems for most. Corrections are:

Page 89. Line 20 in the bottom program should read: 20 FOR L = 0 to 7:FOR M = 0 to 7.

Page 90. Line 5 at the top should read: 5 POKE 36869,255, not 36849.

Page 91. Line 100 in sample program needs an extra right parentheses at the end.

2) Here's a helpful tip if you're using HESCOM with an 8K expander:

Set the expander memory to \$A000.

Load in HESCOM on VIC.

Type: POKE 56,192:RUN

When it finishes, type: POKE 55,0:POKE56,30:NEW

Now you have HESCOM loaded in a place where it will not bother BASIC, & doesn't need to be re-loaded everytime!

3) To do a soft reset on the VIC, type: SYS64802.

4) If you are having bad RF interference problems with the VIC, try this:

Carefully open up the VIC & locate the small 'pot' covered with blue enamel, right behind the video cable connector. Turning this will adjust Video intensity and in some cases really improve the overall picture quality.-JOH

"The March issue of Byte has the 6116 static memory chip listed \$7.95 each. Eight of these plus a few odds & ends should make a 16k memory available for less than \$100. The 6116 was \$15 at the end of 1981! I would be interested in hearing from anyone who has built any hardware."-Peter Farrow, from Hardcopy

"I love my VIC with color, sound & Hi Res graphics very much. I ordered many programs in the USA for my VIC. I'll give you some reviews over the programs that came ultra fast (only 2 weeks since my order, which is exactly the time for two airmail letters between Europe and USA)." [See AMOK and FRUIT FLY reviews].-Fritz Schafer (West Germany)

WANT ADS

Education

WANTED: Anyone working with the HANDICAPPED is requested to contact college student Constantinos Pattichis, 780 Montgomery St., Apt. 104, Fredericton, N.B. E3B 2V1 CANADA. He writes, "What I'm intending to do is work with the PET computer to change its normal keyboard to an EXPANDED KEYBOARD (used to accomodate people with motor or limb dysfunctions)...& also interface this with a SPEECH SYNTHESIZER for non-verbal disabled persons...[&] write some programs for young persons in their first steps of learning."

WANTED: We are a school district producing our own programs & we are presently using a telex copier to copy our cassettes. What unit do most people use for high speed DUPLICATION OF CASSETTE TAPES?---John Melchior, Parsippany-Troy Hills Township Schools, Ed. Resource Center, 1213 S. Beverwyck Rd., Parsippany NJ 07054

WANTED (or FOUND?): Families to come to a FAMILY SUMMER COMPUTER CAMP in WATSONVILLE, CALIFORNIA. According to Director Ed Pollock, this may be the first of its kind in the U.S.... Designed for the whole family to attend (ages 10-90), this 2-week summer day camp will be held daily Monday through Friday, 7:30-5:30, in two sessions: the first, July 12-23, & the second, August 2-13. Location is the 90-acre campus of Monte Vista Christian School at 2 School Way, Watsonville CA 95076. The camp will be mostly PET- (and VIC)-oriented, with guest speakers on various computers, & will offer courses in beginning & advanced BASIC, Pascal, FORTRAN, COBOL, COMAL, etc. Contact Ed Pollock, Director of Family Summer Computer Camp, in care of the school address (above) before June 25th for registration information. (Family discount prices available).--ES

Farming

WANTED: Anyone who has successfully chatted with AGNET in Nebraska using a PET 4032 & 8010 modem, & anyone with farm programs or VISICALC templates for PET is requested to contact Ed Frost, 307 E. Jefferson, Winchester IL 62694.

Hardware

WANTED: A 64K CP/M BOARD for PET that handles bank selection & other controls exactly the same way as on the 8096 memory expansion board. Ideally, it would mount out of the way under the video monitor like Madison Computer's CP/M board. Reason? So you can run both CP/M & the new 8096 programs (such as SILCON OFFICE) on the same board.--JS

WANTED: I am interested in upgrading my 2001-8 PET from Upgrade BASIC (2.0) to BASIC 4.0. However, I have the 28 pin ROM (6540) set, & need to find out how to modify it for that purpose. I would appreciate any information you have available on such a project.--Harold N. Kingsbury, Rt. 1, Box 99a, Avon MN 56310. [ED: Check out the BETTER SOLUTIONS ad in Compute!, April 1982, p.81]

FOUND: New Life for Old PET's. One of the sad things about the original PET is that memory expansion costs are prohibitive. The Skyles Electric Works 8K expansion alone costs \$200, & this is the lowest price for 8K until now. I am working on a way to interface a VIC 8K or 16k expander to the original PET...for around \$35. This leaves only the 8K expander which lists for \$60, but...is cheaper from mail order houses. The total cost of the interface & expander is about 50% the cost of any other memory expansion system. If you already own a VIC, the savings are even greater, since you can use the expander on either machine. To find out more about this interface, send a SASE to: PET Interface, 7417 Ryan Rd, Harvard IL 60033 or call MN at 815/399-1630 or 12 weekends.--MN

Utilities

WANTED: PROGRAM TO WATCH the ADDRESS BUS during execution of machine-language programs, & PAUSE when data AT a PARTICULAR ADDRESS is referenced or altered (not the same as setting a breakpoint for the program counter.) Might require a second PET, since so many machine-language programs trap IRQ on the host PET.--JS

WANTED: PROGRAM TO WATCH the IEEE BUS & COPY DATA going to or from a specified device. Would require a second PET or other hardware. One use would be to make a security copy of information going to the new Commodore hard disk.

A nice added feature would be the ability to single-step the bus & display data.-JS

WANTED: MICROMON VERSION FOR THE 8096. Key problem is switching the banks in & out for PEEKs & POKEs (in for access, & out before PET crashes for lack of an operating system in the banked memory.)-JS

ASSEMBLER REVIEWS

PAL, \$50 from Brad Templeton if you can get it. VERY exclusive piece of PET software! Few have it, but those I know, use it regularly. Much like POWER: extremely simple in concept, extremely flexible in use, & extremely powerful in skilled hands. Like POWER, it documents all key routines & variables, a great help. It comes as a 4K program assembled for various addresses. I use it in my DIAL-A-ROM alternately with POWER, which serves as its editor. This leaves the entire normal memory free for source code. PAL's own source code all fits in memory at once for editing. It easily assembles & stores itself as object code in under 10 seconds beyond disk access time, far faster than any other assembler I've used. Its syntax is like the CBM assembler, but its files are stored as ordinary BASIC. Has usual amenities: conditional assembly, sorted symbol table & pseudo-ops for all data, lacking only macros. The manual isn't for beginners but is excellent. I have written UNASSEMBLER for it, & MAE-to-PAL & CBM-to-PAL converters. Highly recommended.-JS

BOOK REVIEWS

COMPUTE'S FIRST BOOK OF PET/CBM, \$13 from Compute! Magazine. Very good book which contains many useful utilities & articles from past issues of Compute! Also provides several useful memory maps & cross-maps. Even if you have all Compute! issues, it's very handy to have the 'best' together. Recommended.-JOH
[According to another caller, the book also includes all errors in the original articles - even the ones later corrected in followup notes.-ED.]

PET FUN AND GAMES, \$10 from Osborne/McGraw Hill.

REVIEW #1: Disk copy of the games available directly from the CODE WORKS. Selected games from Cursor magazine. Easy to read listings, using the Compute! listing conventions. If you missed Cursor in the beginning, & you don't mind typing in (or buying) the programs, this is for you.-MN

REVIEW #2: Features large clear type & is well illustrated; has Osborne's usual high quality printing & binding. A subtle benefit of this book for those who subscribed from the beginning, as I did, is that Cursor has fixed the programs in the book to work on current models. Now that Cursor is passing, I value this book as a keepsake.-JS

PROGRAMMING THE PET/CBM, by Raeto West; about \$35 from Level Limited. BASIC & Assembly-language PET guide. Who on earth pays \$35 for a paperback? You will, if you want the latest information for expert-level programming in BASIC & 6502 machine-language on PET/CBM computers. This is no book for a beginner; it uses hex notation in the fifth paragraph! On the other hand, it BEGINS where Osborne/McGraw-Hill's second CBM/PET Guide leaves off, & leaves virtually no high-level programming stone unturned in its 500 tightly-printed pages.

Skilled PET users will find it takes very careful reading to understand fully, but is worth the effort. For example, it documents entry points & register contents on entry & exit of each BASIC command, as well as other major routines called during execution. It is current through January, 1982, & seems entirely accurate--no small feat! It is the only adequate machine-language PET

programming guide available so far.

Anyone who is deeply enough into PET to benefit from this book will use it daily as a dictionary-style reference guide. For a paperback, it's fairly well bound, but if I'm already paying twice the price of a U.S. book, I wish it were spiral or hard-bound. Larger print & white space on the pages would have been nice too, but imagine the cost then! Highly recommended. Anyone who programs the CBM/PET computers for a living MUST get a copy.-JS

BUSINESS REVIEWS: DATA BASE MANAGERS

DATA-PLUS. Apparently, CREATE-A-BASE has been bought by Professional Software, & will be now be sold under the name DATAPLUS. No word yet on whether the package has been changed, or what happens to customer support for buyers of CREATE-A-BASE. Professional Software promised me a review copy a month ago, but it hasn't appeared. (It's the least they could do, considering that my sort is in it without permission.)-JS

FILE CABINET 1.2, \$60 from Progress Computers. Create/manage data in sequential files with 18 menu driven modules which use only 6K at a time. Fast ML sort with subsorts (by JS). User-defined default entries for current filename, printer device, & each file field. May combine files into new file & generate simple reports using file data. Allows extensive editing of files & file structures, except report format. Good screen prompts/error trapping. Fair manual describes typical uses.

MINUSES: It should say, "For DOS 2.0's sake, use NO spaces in file names." Report feature is clumsy to use. I prefer the modules to allow pausing/aborting output & successively to pull in previously named series of files. HOWEVER, its straight-forward, unprotected programming let me add these features. Its use of little memory & sequential files will work on BOTH my 40 column upgraded PET & my GRAPHIC 80. Not fancy, but a good buy of a work horse.-BA

THE MANAGER, \$250 from CMD. Requires CBM disk & 8032. Protected by dongle. This file manager has become very popular in the 9 months or so it's been out. Had we been free to review the pre-release copy we saw last May, it would have received a rave review. Even now, it's a GOOD package, second only to SILICON OFFICE. For users who only need one file at a time (and already have WORDPRO), it should be quite adequate, perhaps even better than S.O., & certainly cheaper.

ADVANTAGES: Uses standard relative files, with nearly every desirable convenience for working with them included: sorts, searches, reports, screen dumps, dumps to WORD PRO, etc. Has well-done Commodore-recommended screen formatting, allowing you to easily design file formats on 1 or 2 display pages. Includes somewhat programmable arithmetic functions. Display variables are recalculated each time the record appears to conserve diskette space. Its other key advantage is its user-accessible BASIC code. Several of its machine-language modules have very useful skills, such as the ability to input strings up to 253 characters long, & then easily alter any portion of the string.

SHORTCOMINGS: CMD suggests users & dealers develop custom applications. It is, for example, possible to relate two files in a report, as in S.O., if the user writes a suitable program. Unfortunately, none of the SYS calls & parameters are documented. Dealers can obtain some added documentation from CMD, but most added powers will have to be figured out by studying program listings. This is the exact opposite of Human Engineered Software's approach. (HES could do well with a reference guide to THE MANAGER!) Other obvious lacks include any way to restructure a file, enter data from a sequential file (I wrote my own), or prevent duplicate records from being entered.

For those with more time than money, THE MANAGER is quite a bargain. I use it myself for user-group information. Recommended.-JS

SILICON OFFICE, \$999 from Bristol Software Factory. Requires CBM 8096 computer & 8050/8250 CBM disk drive. IEEE modem & printer optional. Claims to handle ALL the software needs of a small office, & nearly succeeds! Combines the first microcomputer database language on any microcomputer, relational data files, possibly the best micro-based word processor yet, & full remote control & communication via modem, all in a single 54K byte machine-language program (claimed to be the largest program ever written for a micro). Already outselling all other Business programs in Europe, where it has been available for 6 months.

SILICON OFFICE is the FIRST TRUE RELATIONAL DATABASE MANAGER for Commodore equipment. Up to 6 independently defined files may be defined & related in nearly any way, using both disk drives for data, plus any number of work disks. This allows several thousand records, or individual records of more than 1,500 characters, or combinations thereof.

As a true database LANGUAGE, it includes all the expected amenities: numeric & string variables or expressions, parentheses, arithmetic, comparisons, subsorts, high-speed wild card searches, IF-THEN, GOTO, built-in functions (notably a calendar), & the ability to work in both immediate & programmed modes.

As a WORD PROCESSOR, it has true multi-column printing capability, uses a virtual disk technique to link 120-150 page documents into a single file, can evaluate complex expressions at print time, & can add in ANY data from any current file. Text is continuously & RAPIDLY formatted as it will be printed, with horizontal scrolling on wide documents. Justifies text even within printed words, giving an extremely polished appearance to printouts.

As a TERMINAL, it is capable of doing, on a remote SILICON OFFICE system, nearly anything that could be done by a local operator of that system. However, the real power of the program is that all these powers are completely linked in a whole that is vastly more powerful than the sum of its very capable parts. The package even comes with a 2 year guarantee.

Documentation is excellent! Includes easily understood full-size bound training manual, plus a separate, very complete & well-organized reference manual in a binder durable enough for daily use. The program itself includes several help screens, with cross references to the manual. A diskette of sample screen masks, including all the usual accounting functions is also available. A help hotline, newsletter & videocassette training course are planned.

My main complaint is that the diskette cannot be copied, & comes with only one backup. Replacement diskettes are said to be available within 2 working days. Also disk data is stored using screen codes, requiring (simple) conversion to PET ASCII before use in ordinary programs.

Beginners can easily use SILICON OFFICE, but even expert programmers will be unable to exhaust its capabilities. If you could only have one program, this is the one to have! Of all the programs the Midnite has reviewed in two years, SILICON OFFICE is the VERY BEST. It is easily the most useful program I have ever seen! Nothing available for any other microcomputer even approaches its power.-JS

THE WIZ, \$495 from Dr. Daley Software. Requires CBM 8032 & 8050 disk. CBM or ASCII printer optional. Uses ROM at \$9000. Data manager package. THE WIZ contains several good & unusual touches, compared to most other data manager packages. For one thing, it is largely self-documenting, with a 125 screen manual on-line at all times. From almost anywhere in any module, 1-2 help screens are available to deal with any current problem. Another major advantage is its ability to handle truly HUGE numbers of records, organizing them on up to about 30 full 8050 diskettes, each containing between 2,000 & 10,000 records. However, each record is still limited to a more usual maximum size of 250 characters, allocated among up to 64 fields, with each field no larger than 78 characters. Another advantage of THE WIZ is its built-in plotting capability.

Like its most worthy competitors, THE WIZ uses Commodore's recommended

screen input editor to design records, has programmable arithmetic, & handles simple reports. It also allows sorting on any field or combination of fields, & either fixed field or global searches, with or without regard to case of the text. Results may be sent to the screen, a printer, or WORDPRO-compatible disk file.

It is not intended to be modified, listed or even halted by the user, but it has enough documentation for programmers to read & write WIZ data from other BASIC programs, using supplied sample interface listings. Also includes a WIZ menu option to jump to a user-written module, & better yet, a claimed ability to read in data from a sequential file, which would avoid retyping when upgrading from a lesser data package.

THE WIZ has one other nice touch: its ROM comes in a small flat board that fits the 8096. Normally off, THE WIZ automatically turns the ROM on at start-up & off at sign-off. The board has an empty ROM socket for whatever ROM you use when THE WIZ is inactive. (If you use the 8096, remember POKE40958,255; that will turn off THE WIZ ROM after using the 8096's added memory.)

I recommend THE WIZ to four groups: the new users, the non-programmers who never read manuals, the people who need graphs, & any user needing over 2000 ordinary-sized records in a single file.-JS

BUSINESS REVIEWS: OTHER

M.A.S., \$495 from Commodore. Medical accounting system by Cimmarron. Requires 8032, 8050 disk & tractor-feed printer. Protected by dummy ROM at \$9000. Able to do cash management, accounts receivable, billing, & Universal Insurance form C 4359 (11-78) for some physicians. LIMITS: The practitioner must have under 100 patients a day total for all of 1-5 physicians together. The practice must also have some novel way of caring for poor folk, since Medicare & Medicaid do not appear to be provided for in the package.

FEATURES: Each physician carries a 'traveler', a little crib sheet of diagnostic & procedure codes commonly used, & which apply to a particular patient's current treatment. The traveler gives the secretary enough info to make out a bill and/or insurance form, either while the patient waits, or later. An end of day summary prints forms & an audit trail of the day's activities, then summarizes info into a journal. A similar process ends each month, with bill preparation.

ADVANTAGES: Reasonably userproof, menu oriented & "helpful" to the operator. For instance, the disk lite blinks on the disk drive you are supposed to use. Has nice display of the current time. More useful is the way it assures that no patient be entered into the system without a guarantor to pay bills. Better yet, guarantors can't be deleted until their bills are paid. Also includes quick methods to enter new patients, & handle one-time only patients.

A good feature is the ability to enter custom diagnostic & procedure codes, with 2 price levels for each treatment. Can make adjustments, such as fixing a billing error, with an audit trail for safety. A wide variety of special reports are also available, including guarantor aging (of bills), codes, referrals, & performance data on individual doctors, places of treatment, & outside services. Some aids for quick entry of redundant data and a quick option to print the most needed monthly reports are included. Manual is thorough & fairly easy to follow.

DISADVANTAGES: 1) manual buries some key operator requirements, such as the need to enter patient names as LASTNAME[/]FIRSTNAME, & the special keys that enter default data. Needs a summary & specification sheet. 2) Insurance, referring physician, outside service, & place of treatment codes are assigned by the program, not selected by the user. 3) Release version refuses to recognize its own data disks, so backups have to be made outside the system. Consider this a preliminary review, since we have not yet seen MAS in daily use by a physician. It is not capable of handling ES's dad's allergy practice of 200 patients a day, nor his need for a quick handler for Medicaid forms. But for a

more typical practice, it might be quite adequate. There is a competing program, called MARI, but its makers are unwilling to have it reviewed. Until they change their mind, give first consideration to MAS.-JS

MeDECS, ??? from IBME. (Caution: not seen by the reviewer.) IBME has developed a way to test a wide variety of hospital equipment, & keep track of maintenance information, using Commodore computers. Actually, a token HP 9845 is used as the central node of a distributed star network, with CBM 8096's at the points of the star, & VIC-20's as data entry terminals, all aided by a semi-automatic "smart cart" that handles the testing & maintenance.

One primary purpose of the package is to prove good maintenance in the event of negligence lawsuits. Another is to automate the reports hospitals have to file on such equipment. The package is leased, not purchased, & looks very good on paper. How about a customer review?-JS

VISICALC 8096, from your local dealer or user group. Has 69K RAM free for spreadsheets instead of the usual 10K. See discussion under COPYRIGHT NOTES.-ES

WORDCHECK, \$200 from MCI. For all PETs with WORDPRO 3 & up. Greatly needed & fairly well done, although its vocabulary seems small. Identifies bad spellings without changing them...an advantage, since most unknown words are correct.

File checking goes quickly, but updating the word list is SLOOOOW. The screen display blames the delay on my SUBSORT (part of the package), but the trouble was in a BASIC subroutine. I redid it in machine language, & sent it to the company, once in December, & again in February. Since they still have not acknowledged it, don't count on getting the improved version. The lack of a reply may also say something about the after sale support you can expect; they are now 3 quarters behind on my SUBSORT royalties.)

Claims 3 printer options. ASCII lines end incorrectly, with VERTICAL TAB, wasting reams of paper on most ASCII printers. Select PET printer option for ASCII printers. Word list contains names & addresses of author & company. Delete these for maximum vocabulary. Skinny forty models need changes in PEEK(151) values in "update".-JS

COMPILER REVIEWS

PC-BASIC Compiler, \$??? from England. Uses a 4K library in ROM at \$A000. Apparently generates true 6502 code. It does not allow dynamically allocated arrays. It also cannot compile programs much larger than 200 lines - it runs out of memory. The Interface Age benchmark takes 18' 33" to run in my 8032. The DTL version took 10' 26". The PC version takes 8' 01".-Lyle Phillips

PETSPPEED, \$300 from Commodore.

COMMENTS #1: PETspeed appends an 8K library. It is a 4 pass optimizing compiler. The break even point [on program size] is about 70 blocks [in the disk source file].-Lyle Phillips

COMMENTS #2: I have chatted with a happy user, who reports it is much faster than DTL BASIC, & handles almost anything. The main disadvantage is that it saves its dimensioned arrays as part of the program file, making many of the larger programs into disk hogs. A demo the PETSPPEED people offer runs about twice as fast as the same program compiled by DTL BASIC.

PETspeed will probably end up with most of the market, but not just because of its speed. Its REAL advantage over DTL BASIC is that it does not require a run-time dangle on compiled programs. Being \$50 cheaper doesn't hurt either. We hope someone will more formally review PETspeed for us next time, & that the DTL people have some improvements in mind to meet the new competition. (I'm still quite pleased with DTL BASIC.)-JS

For those willing to wait a bit, there are two more entries in the compiler sweepstakes. Professional Software has one coming soon. Price & features are all "to be announced". There is also a PET compiler of some kind available in Germany. I've seen it, & have heard it works well on small programs, running quickly, but hogging space. I have no idea where to order it or what it costs.-JS

Updates on:

DTL BASIC COMPILER. Reader James Mehl wrote in with further questions about DTL BASIC. He noticed a very negative review of it in the TORPET, (Toronto PUG's newsletter), & wondered if our tests were hard enough on it. Mehl supplied a test program, a fairly well optimized version of Commodore's "Display Track & Sector" program from the Commodore's system diskette. The original took 36 seconds to display a sector. Mehl's BASIC version takes 15 seconds. DTL BASIC took 110 seconds to compile Mehl's version, occupies 22 sectors instead of Mehl's 11, & displays a sector in 9 seconds...not exactly a blinding improvement. However, this tests the compiler at its worst. Mehl's version performs far fewer calculations than the original, & has relatively few line numbers to deal with. Compilers shine best when the program involved is either: 1) badly coded, 2) huge, or 3) crunches lots of integer numbers.

DTL BASIC owners may essentially disregard the warning notice in the front of the manual about copying (so I was told when I protested to CMD about it). Rumor has it they are considering doing away with the required run-time dongle. Owners are urged to join me in lobbying for that change.-JS

TINY BASIC COMPILER: "I should have known better, but I purchased Abacus' TINY BASIC COMPILER. It was about the same quality as their Machine Language Guide [mediocre].-Bruce Jaeger

DISKETTE REVIEWS

ELEPHANT DISKETTES, about \$25 per box of 10 from Leading Edge dealers (see Baker Enterprises ad in this issue). Made by Dennison Kybe. All varieties for CBM equipment (single- & dual-density, double-sided). ANSI-certified. 100% tested. Reinforced hub rings. Only out for past three months, but already, we are on our third order of 100 & find them both quiet & entirely reliable on ALL Commodore drives. Only the box seems cheap; it won't stand up to daily use. Considering the price, I can live with that. Recommended.-JS

EDUCATION REVIEWS

William L. Brown has developed what appears to be a helpful & inexpensive program package for school finances. Since it uses my SUBSORT, it will be reviewed by another reviewer next time. Meanwhile, it DOES exist & work.-JS

See SPRINTYPER Review for VIC under VIC SOFTWARE REVIEWS.

FIRMWARE REVIEWS

SM-KIT, \$40 from A.B. Computers. 4K utility ROM. Requires BASIC 4. Remarkable bargain! Developed in Germany by SM Softwareverbund-Microcomputer. Useful features of SM-KIT include a set of powerful commands for appending programs from disk files to program in memory, merging programs from disk files with a program

in memory, & saving a portion of program in memory to disk. Has flexible directory display options: a filename printed in directory listing can be used as part of load command (similar to FETCH in BASIC-AID). These features simplify building & using BASIC subroutine libraries. Other extensions to BASIC slow execution time by 5-15%; SM-kit slows BASIC by less than 1%. All commands I have used actually work. Includes adequate 21 page manual. My only complaints: a CHANGE command was not included & it only supports printers with automatic linefeed. Highly recommended, nevertheless!-James B. Mehl

FURNITURE REVIEWS

COMPUCART, \$895 from IBME. For all PETS. (CAUTION: not seen by the reviewer.) The Compucart appears to be a beautiful piece of birch & oak furniture, & also VERY functional. It holds a Commodore computer on a lazy susan, with room for a wide carriage printer on the right, with a disk drive slot & hanging file draw below it. The whole unit is movable, with carpet casters, & a 20 foot retractable power cord, complete with multiple outlets, single lighted power switch, & (apparently) a spike suppressor. A shelf pulls out below the printer to extend your work area, & the disk drive also slides out on a shelf. Overall size is 48 X 26 X 26 inches. Unit appears to be much better looking, & also more functional than the two desks reviewed last issue. It is also MUCH more expensive! So far, it's the only computer desk I've heard of that may be easily movable. Definitely worth checking into, & how about a customer review?-JS

MICRO WORK STATIONS. Texas Technical Services, Inc., have just taken on the regional distributorship of a micro work station (desk). It comes in a number of designs to suit different microcomputers. It is sturdier & cheaper than others we have seen. The feature I really like is that anyone can assemble it in just a few minutes.-Paul Dixon from CHUG's Hardcopy

GAME REVIEWS

COSMIC COSMIADS, 7 pounds from AudioGenic. Extremely addicting, fast moving arcade game based on Galaxian. All machine language. Another one of the best games on the PET. Another bonus: it will run on [most-ed] all PET/CBM computers. Highly recommended.-JOH

COSMIC JAILBREAK, 7 pounds from AudioGenic. Another good arcade game in which you must stop aliens from rescuing their companions from the Cosmic Jail. Good, but a bit sluggish in action.-JOH

PETRISK, \$12 from Pendulum Software. Computer version of RISK(tm) board game. Great graphic display of the world. Good game, but occasionally blows up if invalid commands are used. Recommended if you are a RISK player.-JOH

PHANTOM FIGHTER, \$15 from Magic Carpet. Fast moving arcade game, loosely based on Defender. Fly your plane over the Superstition Mountains while blasting enemy invaders. Recommended.-JOH

SECTOR 3, \$15 from Creative Computing Software. OLD or NEW roms, 24K. The PET version of Air Traffic Controller is finally here. You choose the length of your shift. You're then responsible for ALL 26 various types of aircraft falling under your control during the shift. Some take off, some land, & some just pass through. Aircraft (5 types) appear in real time on your radar screen & respond to all of your commands. Every conceivable option has gone into this game (even a suspend feature). Keeps you on your toes for hours. Highly recommended.-JOH

TARGET COMMAND, \$10 from ComputerMat. Old or New roms, 8K. Arcade type game very similar to Missile Command. Good graphics & speed isn't too bad. Only complaint is that controls are very hard to use.-JOH

VORTEX, \$15 from Magic Carpet. One of the best games I've seen on PET. Fast animated machine language graphics, fantastic sound & great action make this a game definitely worth buying. Object is to blast thru energy rings to get the alien. Highly Recommended.-JOH

WASPS, \$10 from Magic Carpet. Fairly good game. Object is to destroy a moving wasp nest (and the wasps) using poison balloons. Good game for the price.-JOH

HARDWARE REVIEWS

CBM 8096 EXPANSION MEMORY BOARD, \$500 from Commodore. 64K RAM board that attaches as daughter board to the 8032. Not compatible with anything rising over two inches from main board. Has 4 banks of 16K each, with only 2 active at a time; these totally replace BASIC ROM address space. Requires extensive knowledge of machine-language to develop new uses, & even then is a real pain to program.

However, its primary importance is for prepackaged programs. Is already supported by several extremely powerful programs, including: SILICON OFFICE, VISICALC 8096, COMAL 1.00, UCSD PASCAL, WORDPRO 5 PLUS, & WORDCRAFT 8096. Most users can wait until they get one of the above before buying the board. However, if you need to run BASIC 2.0 or 40 column BASIC 4.0 on your 8032, the 8096 board comes with them on diskette. Alas, a bug in these supplied versions makes them shake on-screen; correct this with POKE 59520,5:POKE 59521,5.-JS

FURTHER NOTE: Microcomputer Printout (April '82) reports the 8096 now outsells the 8032 in Britain, because the added memory is required in order to run SILICON OFFICE. (See review under BUSINESS)-JS

MTU-130 \$3000+, depending on options, from Micro Technology Unlimited. 6502 computer with disk. The MTU-130 has been a pleasant experience. The similarities between CBMs & MTUs can be quickly described. Both are 6502 based machines & the BASIC interpreter on both systems is an "enhanced" Microsoft BASIC.

A few aspects of the MTU-130 have been disappointing. No more software clock (best known as TI or TIS). The "too small" 10-character keyboard input buffer has dwindled to 1 character. Most importantly, my 80K computer provides 27.5K of available memory to application programs written in BASIC. Furthermore, 5K of machine language support programs, tucked away in ROM at \$9000-\$A3FF on the PET must now consume additional RAM that would have been available to BASIC. Result: I lost 7.5K! (compared to 32K CBM)

Now for the brighter side: 480 x 256 hi resolution bit mapped graphic display (240x256 with 4 levels of gray scale); fiber optic light pen; ninety six character keyboard including 18 key numeric keypad, 5 cursor control keys & 8 special function keys; three key "system control" keypad; eight bit D-A converter; cassette interface; serial port (programmable) & 6522 type parallel user port.

Our configuration includes two megabytes of disk storage on two eight inch double-sided, double density floppy disks. Add on drives are available. The disk is very fast. A 32K program can load & begin execution in under 3 seconds. One Megabyte limit on file size. Data within any file can be randomly accessed to each byte (or field (or record)). Once positioned, data can be transferred in single bytes, by record, or in binary "block" format.

Has well documented procedure to add BASIC commands. Libraries of user-defined commands can be omitted if they are not required. CIL provides

BASIC with 14 I/O commands, one of which allows the execution of any CODOS monitor command from BASIC. IGL provides 17 more graphics commands allowing BASIC programs to utilize the light pen, graphics crosshair cursor, & do standard line drawing. Another library (VGL-Virtual Graphics Library) optionally extends this graphic capability to include Virtual windows of graphic data.

CODOS (Channel Oriented Disk Operating System) provides a device independent file handling system. I/O is over logical software channels (0-9). Physical devices, such as: printers, serial port peripherals, memory, disk storage, the console or custom peripherals, are assigned to channels. CODOS contains 36 built in commands. Most execute as "overlays" in a 256K block of high memory. These maintain disk file structures & provide an extended monitor. Any machine language program can become a system monitor command simply by SAVEing it.

Jump tables to entry points of the keyboard, text display & graphics display driver are fully documented. I was pleased to find tables of important page zero locations & a jump table of addresses providing a BASIC interface. MTU's notable commands include LEGEND (defines char. strings for display in eight rectangles corresponding to eight special function keys). The variable KEY (returns a value of 1-8 for function key depressed). ON KEY GOTO ... works very nicely.

Has an Instrument Synthesis Music Interpreter for high quality four-voice music; with an added D-A converter, stereo can be selected. MTU has a prototype speech digitizer board through which they have recorded phrases distributed with the system...very life-like, even to the southern accent!

In summary, most experiences with our "lavish" ergonomic micro have been pleasant. The disk based operating system & language processors are a wise design step, easing upgrades & providing for different languages. Everything of importance executes out of RAM, from the character font table to volume, pitch & duration of the key click. We have on order (from MTU) the 256K Datamover board. This product will allow the full utilization of MTU's extended addressing (128K Basic programs - 64K code, 64K data). In addition, it has on-board an 8 megahertz 68000 that can share tasks with the 6502.-MT

[As MTU's ad in this issue shows, the 130 is also a PET upgrade. Begin with added memory, then a disk or two, & finally the box. This may help those with machines that cannot otherwise be upgraded, such as original 8K PETs with Upgrade BASIC. That's one reason the 130 is included in this "all-PET" Gazette; the other is, MTU has supported PET for years with fine add-on equipment.-ed]

RIBBONS FOR CBM 2022/2023 PRINTER (#604-E-263), \$1.78ea (1.63ea for 6, 18.36dz) from Quill Corporation. Same Nytronic Dye Black Intense nylon ribbons which came packed with your printer & are so hard to get. Dark, long-lasting print, cheap, & quick service. Highly recommended.-BA

[Quill only sells to companies & churches, not individuals.-ed]

RS232C INTERFACE, \$40 from Eclectic Systems. Converts User Port to RS232 voltages. I am using it right now with a STAR RS232 MODEM [see under MODEM REVIEWS] & I haven't had any problems.-MN

STARWRITER F-10/55 (letter quality) printer, about \$1800-2300, plus interface (parallel or serial) from C. Itoh. 40cps Diablo friction-feed on 15" carriage. Bi-directional logic-seeking print with high speed tabs in all directions. Tractor & 55cps options. Diablo daisywheels & ribbons. Friction adequately feeds a few pages, then tractor needed. Noise level OK, except for a high-pitch when idle. Cheaper, 10 lbs lighter, & prints more clearly than Starwriter II. Its excellent print, especially with carbon ribbons, is loved by our electronic stencil scanner. Highly recommended.-BA

Update on:

2031 SINGLE DISK DRIVE. Data transfer rate for 2031 is about half that for 4040.

I suspect this has to do with the 2031 being set so that one basic machine can be used with appropriate interface for both VIC & GPIB.--M.G. Ryschkewitsch

[NOTE: He's right; it is slower, but Commodore reports the VIC disk will be even slower, by about the same factor, due to its serial interface. Remember the tiny memory size & IC chip count in a 2031 relative to a 4040. Even so, it's still as fast as an Apple drive & has larger capacity.--JS]

LANGUAGE REVIEWS

COMAL 1.00, \$495 from INSTRUTEK of Denmark for ROM Board version, price in RAM unknown. ROM version requires twelve inch screen. RAM version requires 8096 expansion memory board & CBM disk drive. Finally, COMAL comes into its own. If you tried Public Domain COMAL last Fall, & disliked its tiny 4K memory space, or the inconvenience of using separate edit & run modules to get more space, then take another look! COMAL now comes up with almost 39,000 bytes free in the RAM version! It has more commands than the earlier versions, which already included nearly every desirable feature of both BASIC & Pascal. COMAL is amazingly powerful; it has all the recommended control structures for structured programming, along with most of the usual programmer's aid functions. It even supports the CBM 8000 series expanded editing commands. The more notable commands are: multi-line IF...THEN...ELSE, CASE...WHEN...OTHERWISE, REPEAT...UNTIL, WHILE, FOR...NEXT...STEP, EXEC PROCEDURE (either as a subroutine or as a multi-line defined function, with global or local variables), INString, printUSING, INTERRUPT (via SRQ on the IEEE bus), & LABELED lines. If you already know what these do, then you can understand why I like COMAL; if you are just beginning, you'd be a lot better off learning to program using these commands than any BASIC substitute.

Other marks of its excellence include: long variable names are allowed & kept distinct, lines are automatically indented to show structure, several command names are completed automatically if you omit a portion, the [SPACE] bar pauses both listings & disk CATALOGs, added utilities can be merged directly into the language with a single command, all CBM disk functions, including relative files, are fully supported, & all syntax is fully checked each time a line is entered.

The main negative so far is lack of documentation; Len Lindsay has written an excellent manual, but there is much even he is still learning about COMAL (such as how to get back into it after exiting to the BASIC ROM monitor), & his manual is still some months from publication. The other obvious lack is BASIC 4's added disk commands; COMAL mostly uses Upgrade BASIC 2.0 syntax for disk control. If I can get source code for COMAL, I'm sure the disk commands can easily be added as an OPTION ROM.

Another OPTION ROM is already available, along with a matching RAM graphic board. Len Lindsay reports that the new board gives COMAL full TURTLE GRAPHICS in extremely high resolution, with two separate high resolution screens. According to a letter from Erling Nielsen of Instrutek, the board features 512 by 256 pixel resolution, controlled by extensions to COMAL. It has 32K memory of its own, giving 2 complete screens - one can be altered while the other is on display, & both are independent of the regular screen image.

COMAL is catching on like wildfire in Europe; many schools there refuse to buy a computer that cannot run it. And for the moment, only Commodore version 1.00 fully implements COMAL on a micro. Probably only Waterloo microBASIC on the SuperPET comes close to its power as a language for most PET users. Highly recommended.--JS

OS-96, \$200 from A.B. Computers. Extended BASIC interpreter for the 8096 expansion memory board. Expands BASIC workspace to an apparent 64K bytes free, (32K reserved for program text, & 32K for variables.) Also adds several

enhancements to BASIC, & some new commands, including most of those in the SM-Kit, (see separate review.) Because variables are separate, changing program lines or chaining large modules after small ones doesn't clear them. The BASIC stack has been lengthened, allowing deeper nesting of loops & subroutines. Key sequences access the 8032 extended editing commands. Program lines & variable data may now be up to 255 bytes long. Spaces are automatically deleted from program lines, & reinserted on LISTing, with a further option moving each statement to a new line, properly indented for structure. New commands include: CLR only some variables, RESTORE data to a particular line & element, REDIMension arrays, ON ERROR GOTO...RESUME, DISPOSE (of stack entries), PRINT or INPUT at a screen location, printUSING, read disk CATALOGs into an array, INSTRing, & ELSE.

OS-96 is fully compatible with PET BASIC syntax & programs. However, ordinary program load addresses must be altered to work, & vice versa. Fortunately, a LOAD at option is included, but there is no matching SAVE at, so you'll still need something like POWER-AID's 'YOU' command to convert OS-96 programs back into a form usable on ordinary machines.

The cursor column is very significant to OS-96; this allows the 255 character lines, as well as automatic AUTO line numbers. However, I found the automatic AUTO quite disturbing, & would vastly rather it weren't automatic. Since programs & variables are kept in the 8096 add-on RAM, & OS-96 is located in the usual 32K RAM, none of the usual SYS calls or enhancement ROMs work.

The documentation I saw was preliminary, & will be improved. I found it adequate for those who already know PET BASIC, though it hints at undocumented commands. According to the instructions, OS-96 will be further enhanced later, to include at least the rest of the SM-Kit commands.

If you need a LOT of memory space free for programs to be written in a nearly standard PET BASIC, & can live with its slight inconveniences, OS-96 is for you.-JS

RPL, \$81 complete, from Samurai Software. Debugger requires 80 column screen. RPL is very much like a compiled version of FORTH, even faster & smaller than its predecessor. However, unlike some compiled languages, its processed code (a 'p' code), can be logically interpreted by the optional debugger.

One of the best features of RPL is its full integration into BASIC's editor. All the usual ROM aids work with its source files. Also, unlike FORTH, it uses the full 80 column screen, & scrolling. RPL programs may be addressed anywhere in memory, & even burned into ROM.

RPL can definitely be used in serious programming. The review copy came with an amazing demo of guitar fingering, quickly showing every possible way to create every possible chord. Another article received since shows how to use the high-resolution plotting powers of the Spinwriter printer via RPL. The article also shows how to get around RPL's lack of decimal math by using BASIC & RPL together.

RPL is very well documented, with a very complete & easy-to-read manual. The optional debugger has every desirable feature, & has been widely praised by other reviewers. (You'll have to take their word for it, since it refuses to cooperate with my slightly non-standard Graphic keyboard 8032.)

My only complaint so far is that RPL is called structured, but lacks most of the structures of COMAL & PASCAL. Also, in order to preserve the BASIC editor, RPL uses some BASIC tokens to mean something entirely different in RPL. As a result, I find RPL programs anything but self-documenting. On the other hand, it has only about 3 dozen commands to memorize, & should be easier for most people to use than assembly language.

Commodore users are quite lucky to have both RPL & COMAL entirely to themselves right now. Both are excellent in their intended uses, far surpassing the BASICS & FORTHS they replace. If you like FORTH, I think you'll LOVE RPL, & if you like Hewlett Packard calculators, you really ought to give RPL a try. Recommended.-JS

MAGAZINE REVIEWS

COMAL Catalyst, free newsletter from COMAL PET Users Group when join. Published about quarterly. Good content. Crammed with rumors, announcements, reprinted articles, resources, & eventually programmer's tips (and I thought Midnite didn't have enough "white space" for readability!) Editor needs WORDCHECK or similar program.-ES

Hardcopy, free newsletter of the Commodore (Houston) Users Group (CHUG). Hopefully monthly. No subscription; \$10/year suggested club membership donation. Director & Editor is John Walker, 8738 Wildforest, Houston TX 77088. First issue is small, short on content, & has an irregular format, but has two excellent columns: Dixonary, by Paul Dixon; & VIC-20 Corner by Peter J. Farrow (see their hints & reviews elsewhere). Likewise, it included Midnite #6's VIC SOFTWARE REVIEWS (of course, we like it, content-wise!). We look forward to reprinting more news here in future issues.-ES

PEDisk Newsletter, free to registered PEDISK owners, from CGRS Microtech. First issue described new PEDISK programs: MAE, PAPERMATE, KM3 PASCAL, fullFORTH, WORDPRO, & a programmer's manual. Tells how to get current DOS 5, a bug in it, & a useful POKE to shut off the drive. Lists dealers. That's all--but a whole lot more than most vendors send registered owners of their products.-JS

Update on:

Interface Age now has monthly "Commodore Logbook" by someone named Mike Heck. The column is well done, & business oriented. That it has run for 10 months without PET owners noticing until last week shows IA had been neglecting Commodore. Welcome back, IA.-JS

MODEM REVIEWS

PRENTICE STAR RS232 MODEM, \$130 from A.B. Computers for Prentice/Livermore Data Systems. Switchable between Full & Half-Duplex operation. Has Answer, Originate, & Test modes. LEDs indicate carrier detect, xmit, rcv, & test. I have used it some locally & am impressed by it. All I need is a printer to be set for THE SOURCE(tm).-MN

Eastern House Software has sent a new TERMINAL program for review. However, it needs an RS232 board made by CGRS Microtech to run, which hasn't arrived yet. Meanwhile, the terminal program seems to have some fine features. Notable among these is the ability to download programs from almost any computer in ASCII form, & THEN tokenize them for use in PET, all automatically.-JS

UTILITIES REVIEWS

BASIC SOURCE CODE, \$60 from Great Western Software Co. MAE-compatible disk version available at extra cost. Pseudo-source code for BASIC 4.0 on CBM 8032. Fully commented disassembly of BASIC itself, including meaningful labels (though not always official). Better yet, it includes cross references to equivalent addresses in Upgrade BASIC 2.0 for all major entry points. Although I have (but cannot disclose) the official CBM 4.0 source code, the pseudo-code is better commented than the real thing! It also covers the 8032, while official version is only for the "skinny 40" PET. Appears accurate. Comes in a sturdy binder on good paper, but unfortunately generated by a dot matrix printer. Recommended for serious programmers.-JS

DISK UTILITY PACK, \$35 from Dick Immers. Complete disk recovery package, including reliable full-feature disk monitor worth the package price by itself. Disk catalog able to store enough data to quickly restore a diskette whose directory track has been lost. Also includes two utilities to save as much as possible from seriously damaged diskettes - one called EAT MY DISK works even on diskettes that can't be initialized (the dreaded 20 error on 18/0.) I even used it to read an 8050 diskette ID in a 4040 drive! Developed as a doctoral project, the result is exceptionally polished & reliable. Since directory portion uses my SUBSORT, BA is evaluating it separately in next Midnite. Highly recommended.-JS

HESCAT, \$40 from HES. Requires 16K RAM & CBM disk. Disk cataloging program. VERY fast, both at reading disks, & in "wild card" searching for specific words or characters in filenames. Catalogs 3 disks a minute. Able to catalog 134 diskettes on a 4040 drive, or 214 on an 8050. Not limited to memory capacity. Uses 2 digit code separate from diskette ID to identify disk (to allow duplicate ID's in the catalog). It suggests you assign same code as the ID, but doesn't tell you ID number until after you select a code. As usual with HES, instructions are excellent, including complete BASIC program listings, 6502 source code, line by line comments, & variable assignments. Highly recommended unless you: 1) Have my SUBSORT program & are content with its LIBRARY demo, or 2) need the added data security offered by Dick Immer's DISK UTILITY PACK above.-JS

HESCOUNT, \$24 from HES. Versions for any PET or VIC. Utility program that aids efficient programming by identifying oft-executed line numbers in a running program. Use is a bit complicated compared to other HES programs, but may be worth the trouble if your programs seem slow for no good reason. Personally, I find POWER's TRC function adequate for the same purpose.-JS

SYSRES, \$87 (Can.) from Cansoft Data Inc. Requires CBM disk & 8K RAM. Copy-protected.

REVIEW #1: Source code available for \$150 extra. Program manipulation system a la TOOLKIT, COMMAND-O & POWER, but there the comparison ends. This one does it all. Extended DOS support system, plus about 35 editor commands. Among the best is CHANGE. Offers true disk merge, & ends conversion printing problems on ASCII printers. Key definition provides up to 15 keys & 255 bytes. PUT sends program to disk as sequential file, & GET retrieves it. Full refund for unsatisfied customers. Cansoft is a remarkable company, with a remarkable product.-Stan Spence

REVIEW #2: Programmed to allow 3 copies to be made. 8K loads 4 ways: top of 16K, top of 32K, half at top of 32K & half at \$9000, all at \$9000. Modified EXTRAMON included that avoids locations 0-2 (SYSRES uses them to repeat keys). Disk commands can take file names from a directory. Programs can list on printer without loading. Relative files can be read to the screen. CHANGE is able to find all instances of /a\$/ without also matching /ba\$/ . Renumbers GO[space]TO statements. Compared to POWER or BASIC-AID, though, SYSRES does not offer much more. Has to be loaded from disk each time, & uses 8K of RAM.-Arthur Cochrane

VIC REVIEWS

VIC-20 CORNER,

by Peter J. Farrow (taken from Hardcopy, the CHUG newsletter)

"If you are already a VIC-20 owner, then you are familiar with the shortage of both software & hardware for this fine machine. The good news is that there are new additions almost daily. Since many of us VIC-20 owners are basically "cheap," some first hand experience reports may help you channel your resources effectively." [See his reviews below-ES]

Books:

VIC-20 PROGRAMMER'S REFERENCE GUIDE, \$16.95 from Commodore & Howard W. Sams. REVIEW #1: Very good book for the person who wants to know more than the 'Beginners Guide' tells them. Sections cover programming, machine language, graphics (hi-res, programmable characters & multi-color mode), vic I/O, & 11 useful appendices. Very good & informative book, but with some 'errors' that may confuse many people. Recommended.-JOH

REVIEW #2: The most complete guide I have seen for the VIC to date. Starts out for the programming novice & ends up with some very good info for the advanced programmer. There are a few errors of course, but they are very minor. My only complaint is that they only gave KERNAL ROM routines & no other routines were mentioned. Includes schematics of the VIC. Very well presented.-MN

Business:

UN-WORD PROCESSOR, \$12.95 from Midwest Micro. This, as the name suggests, is vaguely related to a word processor. By using a line number at least every four VIC screen lines, text may be directed to the VIC-1515 printer or a RS232 device. Printed line length can be varied with a poke & normal screen editing makes the system flexible.-Peter J. Farrow, from Hardcopy

Education:

FLASHCARD QUIZ, \$7.95 from Academy. This tape comes with "States & Capitals" plus instructions on how to make your own tests. The program keeps score & gives re-tests of missed questions.-Peter J. Farrow, from Hardcopy

SPRINTYPER, \$5 from Transonic Laboratories. Any VIC. Typing aid. Uses color & sound to retain interest in random, but sensible, test sentences. Remembers & reports typing speed (WPM), best speed, average errors, & number of sentences tried. Automatically adjusts for user skill. Disables keys that aren't on a normal typewriter, & tests all normal typing keys. SPRINTYPER is the first truly useful program I've seen for the VIC, & a real bargain. Highly recommended.-JS

TYPING TUTOR, \$9.95 from Academy. Eight level touch typing tape that automatically increases in difficulty as one's skill improves. Errors & typing speed are given thus providing instant feedback.-Peter J. Farrow, from Hardcopy

Games:

ALIEN PANIC, \$10 from Nufekop. Very good & colorful game similar to Apple Panic. You run up & down ladders in a five story maze digging holes to trap the 'alien'. When an alien falls in a hole, you must knock him thru it down to the next level, & so on until he hits the bottom & you are awarded 150 points. A bargain at \$10. Recommended.-JOH.

AMOK, \$19 from UMI. (See M#5) 3K. Machine Language. Incredibly good arcade game. Didn't believe such a superb program would fit in 3K. You fight various robots that have run amok. Very tricky HiRes graphics & sound. Not cheap, but well worth the money!-Fritz Schafer

BLUE MEANIES FROM OUTER SPACE, \$10 from Commodore. Fair use of Hi-res graphics & sound. Very similar in playing style to arcade DEFENDER, since there are many controls to keep track of. After you kill 20 Meanies, they get even meaner! Not

a bad game for the price.-MN

DRAGON MAZE, \$20 from UMI. You are trapped in a maze & must get to the other side where the exit is; but you can only see the wall so far ahead of you & there is only one way out. Also, the monster sniffs you out & tries to eat you. They also can go thru the walls.-MP

FABULOUS FOUR I, \$60 from UMI. Contains four games. Star Wars, a bit boring & hard to play, but plays the whole star wars theme at beginning which makes it a little better. Dragons Maze is a fairly good game in which you attempt to escape from a maze containing a killer dragon. Laser War, not very good, would never buy this game alone. Invader Fall (Requires 3K expander) is probably the best game in this package, you shoot down falling invaders & an occasional saucer who fires back. This game I would recomend. Nice package, but again, it's just a little too expensive.-JOH

FRUIT FLY, \$13 from MIS. 3K. BASIC.

REVIEW #1: Requires (ATARI) joystick, but can easily be converted to keyboard control. You have to eradicate insects, but don't shoot the helicopter. HiRes graphics & sound. Good value for the money.-Fritz Schafer

REVIEW #2: In this game a helicopter (controlled by VIC) & a 'poison shooter' (controlled by you), team up to destroy a swarm of fruit flies popping up everywhere. Eventually you will be overrun or accidentally hit the helicopter & that's it. Fairly good game.-JOH

GLOBBLER, \$25 from UMI. No joystick option.

REVIEW #1: You control a centipede type of worm thru a field of mushrooms & poison toadstools & must eat the mushrooms to go into another field. More advanced. Really fun after awhile.-MP

REVIEW #2: Sometimes when the playing field is set up, the worm will run into a block the first thing. Grossly overpriced & underdeveloped.-MN

JOURNEY, \$10 from Nufekop. Game in which you must travel down a canyon hitting fuel pods to stay alive. Not a very good game as it gets boring in a few minutes. With all the good games available, I wouldn't recommend buying this one.-JOH

KRAZY KONG, \$10 from Nufekop. Game patterned loosely after Donkey Kong. You attempt to get to the top of a series of inclined girder while jumping over the barrels Kong is rolling down. When you get to the top, you jump up & grab the girl & move on to the next level. Good game.-JOH

PLANET DEFENSE, \$20 from CFI. 3K. BASIC. You must prevent aliens from landing & destroy their mother ship. Funny sound, but no HiRes graphics. Too expensive.-MN

RESCUE FROM NUFON, \$10 from Nufekop. Object of this game is to rescue 30 human captives from a 5 story alien building of over 100 rooms. In rooms you may find humans, elevators, any one of a number of different aliens, or nothing. Rooms, aliens & humans are all graphically displayed. Very good game, especially for a 5K Vic. Recommended.-JOH.

SLITHER, \$10 from Commodore. Jim Butterfield's ARROW program re-written for the VIC. Worm goes around playing field eating (or trying to eat) blocks that appear on the screen worth up to 9 points. Tail grows each time you eat a block. A second more challenging version called SUPER SLITHER is also included. The only thing I found wrong with it is that it doesn't use joystick. Good.-MN

3D MAZE, \$15 from UMI. Different type of maze game in which you are given a 3D view of the maze from the inside. Good game, but over priced.-JOH

TUNNEL PATROL, \$13 from MIS. In this one you run around a maze gathering energy crystals & fighting a bat type creature which pops up at random. Game is good at first, but just seems to get a bit boring after a little while. Some may like it, & others won't.-JOH

VIC PAC 3, \$20 from Skyles Electric Works. 3 games: Indi-500 [sic], Depth Charge, & Gunfight. Indi-500 runs a bit slow & gives you no control over speed. Depth Charge is a total waste, too slow & poor graphics. Gunfight is probably the only good game in this pac, graphics are very good, & game runs a bit slow but is very playable. Not recommended, although I would buy gunfight if they sold it separately for a third of the price of the package.-JOH

VIKMAN, \$10 from Nufekop. PacMan type game. Graphics are excellent. Nice feature allows you to chose number of monsters. Available in keyboard or joystick versions (as is all Nufekop software). Game is good, but the 'pacman' is very difficult to control. You must direct it to turn exactly at an intersection or the 'pacman' will stop dead. Also monsters seem to move too randomly. Good, but most will be frustrated by awkward control.-JOH

Game Cartridges:

DRAW POKER, \$30 from Commodore. Not a real poker game, but rather a game in which you win an amount based on the 'odds' of your hand coming up. Even so, it's fun to play, & the card graphics & sound effects (which are more like music) make this a worthwhile game to have. Recommended.-JOH

METEOR RUN, \$40 from UMI. Game similar in some respects to Defender. You fly around in space blasting chunks of space rocks & fighting an occasional alien lander who attempts to blast you. Has radar display at top. Graphics are superb, especially when ship is hit. Very good game, but not really sure it's worth \$40. At \$30, I'd buy it right away. Still, I think most would enjoy it.-JOH

MIDNITE DRIVE. \$30 from Commodore. Commodore version of Night Driver. Probably the best done version I've seen on a computer. Speedometer & Tachometer are shown as real guages with moving 'needles'. You must all use accelerator & shift thru 4 gears. Very colorful & very well done. Recommended.-JOH.

SUPER SLOT MACHINE, \$30 from Commodore.

REVIEW #1) One armed bandit for your VIC. Good use of graphics & sound. Can use joystick to get the feel of pulling the lever. In all truth, I didn't like the ATARI (tm) home system slot machine game & wonder why waste programming time to develop something like this. Still, it played very well. If you play the slots in Vegas, you might like this one.-MN

REVIEW #2) Fast moving, with unbelievable graphics & sound. Even has a display of a little man standing in front of a slot machine who pulls the lever for you. Recommended.-JOH

VIC AVENGERS, \$30 from Commodore.

REVIEW #1: This IS space invaders for the Vic-20. The same in every way as the arcade version, with the addition of color graphics! Very well done & highly recommended.-JOH

REVIEW #2: Invaders change color as they get closer to you. Super use of HI-RES & sound. I'm disappointed that Commodore didn't make a souped up version

like those found in arcades today. Still, it's the best one I've seen.-MN

VIC SUPER ALIEN, \$30 from Commodore. You run around a maze inflating balloons to 'trap' aliens. When an alien is trapped, you must run to the balloon & deflate it to crush alien inside. Fair game, but 'score' display tends to run off the top of the screen on most TV's, & the aliens' totally random movement lets the game become boring too quickly. Would have been a lot better if aliens came after you. Fair.-JOH

REVIEW #2: Joystick option. Four aliens who will eat you if you don't catch them first. If you don't deflate the balloon quickly, the monster could still break out to eat you. I got killed this way several times when I first played it. Not a bad alternative to PACMAN.-MN

Utilities:

HESCOM, \$50 from HES. Not a game. Includes user-port to user-port cable & software for both PET & VIC. Can be used to send data or programs between PET & another PET, VIC & a PET, or between 2 VIC's. Very handy utility program to have, especially if you have a disk on the PET (in which case it's the next best thing to a disk on a VIC!). I use it all the time. Recommended.-JOH
[HES recently provided a revised version of HESCOM with an easier-to-use version of the program. No more pokes needed in selecting options.-JS]

HESCOUNT, \$24 from HES. Versions for any PET or VIC. See under UTILITIES REVIEWS.-ES

Your editors, Jim & Ellen Strasma are pleased (& relieved) to announce that the new third edition of the Osborne/McGraw-Hill Guides for the PET/CBM computers is through the proof stage & now supposed to be available in June. To go along with this 3rd edition, there is a special HELP disk of Public Domain & donated software to guide beginners in more advanced applications of CBM/PET computers. Copies of this diskette are now available. Users are welcome to obtain the disk through any user group that has it, (such as ATUG for 4040 format, or Baker Enterprises for 8050 format). Otherwise, it will cost you \$15, direct from the Strasmas.

CURRENT CONTENTS OF THE HELP DISK:

First, several of the longer programs from the book itself, to save typing time & errors.

```
(ascii.fix.bas, border.print, concatst, date, minimail30oc
modem, name&address, seq.mail.b4, seq.num.b4, window)
```

Then comes our choices for "The best of Public Domain" from the ATUG exchange. These include:

| | |
|------------------|---|
| Mail List 4040 | Excellent relative record handler by Chris Bennet of TPUG; revision & instructions by JS. |
| Basic Aid 4.0C | Programmer's Aid package in 4 versions, by Commodore Canada, revision & instructions by ATUG. |
| Backup | Disk Utility by Jim Butterfield of TPUG |
| Bar Graph 2.4 | To screen & printer. By John Easton of TPUG. |
| Cass.data.copy | Moves data from tape to disk, by JS. |
| CBM 4032 v2 | Makes 8032 a 4032, by Chuan Chee of TPUG. |
| Copy/All | Better Unit to Unit, by Jim Butterfield. |
| Datamaker | Data statements from object code, from PET Gazette. |
| Draw | Etch a Sketch, from Penninsula School. |
| Eater | Game, optional joystick, originally by Ann Arbor PUG |
| Mandala | Kaleidoscope, by Bill Seiler. |
| Micromon-D | Extended monitor, by Seiler & ATUG. |
| Petsong 3.2 | Music player, from PET Gazette. |
| Procep.Editor | Input editor, from Procep |
| Relread | Reads relative files, by Jim Butterfield |
| Scopy | Scratch/Copy disk utility, by Keith Peterson |
| Soup | Compares binary disk files, by Henry Troup |
| Terminal | Modem controller, by Steve Punter of TPUG |
| Word Pro Printer | For those without..., by Robert Baker |

The 8050 version of the diskette adds Bennet's 8050 Mailing List, doubling capacity, but lacking many features.

RESOURCES

ADDRESSES for products mentioned in this issue:

| | |
|---|---|
| AB COMPUTERS | 252 Bethlehem Pike, Colmar PA 18915 |
| ABACUS SOFTWARE | Box 7211, Grand Rapids MI 49510 |
| AUDIOGENIC LTD. | Box 88, Reading, Berkshire, England |
| BAKER ENTERPRISES | 15 Windsor Drive, Atco NJ 08004 |
| BRISTOL SOFTWARE FACTORY | |
| c/o Associated Marketing Systems, Inc., | 55 Central Dr., Farmingdale NY 11735 |
| William Brown Miller Elementary School, | 850 Spencer Rd., Brighton MI 48116 |
| CANSOFT DATA INC. | Box 76752, Stn.S, Vancouver B.C. V5R5S7 CANADA |
| CFI | 875 West End Ave., New York, NY 10025 |
| CMD | 365 Main St., Milton ONTARIO CANADA L9T1P7 |
| CGRS MICROTECH | Box 102, Langhorne PA 19047 |
| CODE WORKS | Box 550, Goleta CA 93116 |
| COMPUTE! | Small Systems Services, Box 5406, Greensboro NC 27403 |
| COMPUTER MAT | Box 1664, Lake Havasu City AZ 86403 |
| COMPUTER MAIL ORDER EAST | 477 E. Third St., Williamsport PA 17701 |
| COMPUTER MAIL ORDER WEST | Box 6689, State Line NV 89449 |
| CREATIVE COMPUTING SOFTWARE | Box 789-M, Morristown NJ 07960 |
| DR. DALEY SOFTWARE | Water St., Darby MT 59829 |
| EASTERN HOUSE SOFTWARE | 3239 Linda Dr., Winston-Salem NC 27106 |
| ECLECTIC SYSTEMS CORP | Box 1166, 16260 Midway Rd., Addison TX 75001 |
| FSS | 1903 Rio Grande, Austin TX 78705 |
| GREAT WESTERN SOFTWARE COMPANY | 1624 NW 9th. Av., Fort Lauderdale, FL 33311 |
| HARDCOPY (CHUG) | c/o John Walker, 8738 Wildforest, Houston TX 77088 |
| HES | 3748 Inglewood Blvd., Room 11, Los Angeles CA 90066 |
| IBME | 601 University Av., Suite 261, Sacramento CA 95825 |
| Dick Immers | 1502 Brookfield Ct., Adrian MI 49221 |
| INSTRUTEK | Christiansholmsgade, DK-8700 Horsens, Denmark |
| INTERFACE AGE | 16704 Marquardt Ave., Cerritos CA 90701 |
| LEADING EDGE Products, Inc. | 225 Turnpike St., Canton MA 02021 |
| LEVEL LIMITED | P.O. Box 438, Hampstead, London NW3 1BH England |
| MCI | 500 East Oak St., Fort Collins CO 80524 |
| MTU | 2806 Hillsborough St., Box 12106, Raleigh NC 27605 |
| MIDWEST MICRO ASSOCIATES | Box 6148, Kansas City MO 64110 |
| MIS | 592 Weddel Dr., Suite one, Sunnyvale CA 94086 |
| *** or *** | 250 Fern Rock Way, Boulder Creek CA 95006 |
| NUFEKOP | Box 156, Shady Cove OR 97539-0156 |
| OSBORNE/MCGRAW HILL | 630 Bancroft Way, Berkeley CA 94710 |
| PROFESSIONAL SOFTWARE | 165 Crescent Rd., Needham MA 02194 |
| PROGRESS COMPUTERS | 7073 Lynnetree Way, Citrus Heights CA 95610 |
| QUILL CORPORATION | 100 S. Schelter Rd, Lincolnshire, IL 60069 |
| SAMURAI SOFTWARE | Box 2902, Pompano Beach FL 33062 |
| SHUGART ASSOCIATES | 475 Oakmead Pkwy, Sunnyvale CA 94086 |
| SKYLES ELECTRIC WORKS | 231-E South Whisman Rd., Mountain View CA 94041 |
| SUPERSOFT | 1st Floor, 10-14 Canning Rd., Wealdstone, Harrow England HA37SJ |
| Brad Templeton | 271 Westcourt Pl. #201 Waterloo, ONT N2L 2R8 CANADA |
| TEXAS TECHNICAL SERVICES, INC. | 3115 West Loop S., Suite 26, Houston TX 77027 |
| TRANSONIC LABORATORIES | 249 Norton St., Mankato MN 56001 |
| UNITED MICROWARE INDUSTRIES (UMI) | 3503 Temple Av., Suite C, Pomona CA 91760 |
| VISICORP | 2895 Zanker Rd., San Jose CA 95134 |

Yes, we know some addresses are missing; where we could find them, they are included. Please include company addresses with any reviews or comments you send.-ed

MEET

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PERIPHERALS AND ACCESSORIES FOR MICROCOMPUTERS

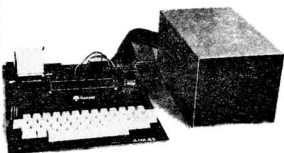


IBM COMPATIBLE FLOPPY DISK SYSTEM

PETDISK

PEDISK II is a high performance IBM compatible floppy disk system. Available for the AIM, SYM and PET/CBM, both 5 1/4" and 8" versions are standard. The 5 1/4" system provides an economical system that can be expanded. Buy a single disk now, add more drives later. The 8" system provides IBM 3740 format and can be programmed to exchange data with minis and mainframe computers. PEDISK II offers the fastest disk system available for the PET. With a transfer rate of 250K, it typically runs 3-4 times faster than IEEE bus type drives.

PDOS software links directly to the standard BASIC and operates with commands for easy interfacing. A full set of disk utility commands are also provided.



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SINGLE 8" DISK SYSTEM (877-1) \$995.00

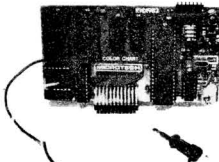
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A 6847 based color video generator board. COLORCHART provides RS170 video output for any standard monitor or modulator. The board plugs into a 4K ROM socket and appears as 4K of RAM. It offers many modes of operation including a 32 x 16 alphanumeric display and a 128 x 192 full graphics mode. Up to 8 colors are available in the semigraphics mode.

PORTMAKER

Portmaker provides two serial ports that connect your computer to the many RS232 devices available. An on board ROM socket allows PORTMAKER to be used along with any 2532 type ROM. PORTMAKER plugs into the ROM socket and displaces only the top 16 bytes of the ROM. Baud rate can be jumped from 300 to 4800 baud.

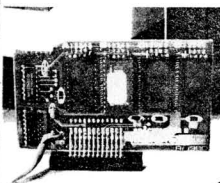
ALLOWS CONNECTION TO HUNDREDS OF RS232 PERIPHERALS
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DUAL SERIAL PORT BOARD \$ 69.95



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| K-1008-41 (Graphics package for 16/32K PET/CBM with 9" CRT & 2.0 ROM) | \$495 |
| K-1008-43 (Graphics package for 40/80 column PET/CBM with 12" CRT) | 495 |
| K-1008-44 (Graphics package for 16/32K PET/CBM with 9" CRT & 4.0 ROM) | 483 |
| Manual for any of the above (deduct cost if later purchase) | 10 |

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If you own a KIM, SYM, AIM-65 or PET (WITH 2.0 ROM) computer, you can make a remarkable increase in the rate at which you transfer data to and from disk--up to 19.6 Kbytes per second sustained transfer rate--dump a 1Mbyte diskette in less than a minute. The disk controller board contains 16K of memory so that you can start off using the controller as additional memory and later add the disk drives and then continue the upgrade with the MTU-100 to gradually upgrade your system while retaining your software and skills in operating a 6502 based computer. For those who want to continue building their systems beyond the MTU-130 we also offer an expansion board with a 6800 microprocessor and 256K of RAM. The Channel Oriented Disk Operating System (CODOS) was written in 1980 to take advantage of current technology and to provide you with the most flexible system available today in a microprocessor. You may execute your own commands by simply typing in your program's name.

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|--|-------|
| K-1013-2D (KIM Disk Controller & CODOS) | \$595 |
| K-1013-3D (AIM-65 Disk Controller & CODOS) | 595 |
| K-1013-4D (PET 2.0 ROM Disk Controller & CODOS) | 595 |
| K-1013-5D (SYM Disk Controller & CODOS) | 595 |
| K-1014-4 (DISK CABINET + 2 QUME DT8 + PS + Cable) | 1649 |
| MTU-100 (MTU-130 Keyboard, PS and processor board) | 1549 |
| Manual for any of the above (deduct cost if later purchase) | 35 |
| DATAMOVER (68000 Microprocessor + 256K RAM) | 999 |
| K-1005-A (Card file for expansion boards) | 85 |
| K-1032-1 (32K Banker memory expansion with EPROM programmer) | 389 |

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| K-1002 | Single board computer DAC | \$74.00 |
| K-1002-2 | PET DAC | 84.00 |
| K-1002-4 | APPLE DAC | 89.00 |
| K-1002-6c | Instrument music for PET | 49.00 |
| K-1002-7C,8C,9D | Instrument music for KIM, AIM-65, APPLE | 59.00 |
| K-1003-1D | PET disk song pack | 30.00 |
| K-1003-2D | CODOS song pack | 20.00 |
| K-1002-3D | APPLE II song pack | 30.00 |
| K-1002-BOOK | MUSICAL APPLICATIONS OF MICROCOMPUTERS | 27.00 |

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